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THE ATLANTIC MEDICAL JOURNAL

OCTOBER, 1927 - SEPTEMBER, 1928

REPRESENTING

THE TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

AT ITS ANNUAL SESSION HELD AT

PITTSBURGH, PA., OCTOBER, 1927

AND

THE TRANSACTIONS OF THE MEDICAL SOCIETY OF DELAWARE

AT ITS ANNUAL SESSION HELD AT

FARNHURST, DEL., OCTOBER, 1927

VOLUME LVII

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Presidential Address*

THE STATE OF MEDICINE IN THE KEYSTONE STATE

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The Medical Society of the State of Pennsylvania has a long and honorable record, covering well over three quarters of a century. It is incumbent upon the present membership to uphold the history and traditions of our fathers in medicine, to study to show ourselves approved as workers who shall rightly divide the truth so that we may not be ashamed of our part in the preservation of this rich heritage, and in turn to pass it on to our successors, with talents so used as to bring forth manyfold returns to the credit of the present day and generation.

The By-Laws require that the president shall deliver an address at this time, so that it has seemed proper to set down the impressions gained during the past year since being honored by elevation to the office of president-elect.

The membership of the State Society shows a steady increase. Our accretion must come chiefly from the ranks of physicians recently graduated, as the list of those eligible who have been in practice for ten years or more has been well combed, with little more to hope for from that source. Much can be done by our manner of approach favorably to impress the young physician with the importance of membership in the Society. It has been our pleasure during recent visitations to note the presence of premedical students in goodly numbers at county society gatherings, also of active medical students during the time of college recess. Likewise, hospital interns have been frequent visitors, so that by the time they become eligible to membership they will be well informed as to the value of contact with the leading members of the profession, apart from the social features enjoyed as a by-product.

The old-time preceptor occupied a responsible position in this respect, and our duty to the young man in medicine should not be neglected. Some societies make provision in their by-laws for junior membership immediately upon graduation, to continue until qualification before the State Board and permanent location, when a certificate of membership and transfer make an easy transition to active membership. In the meantime, the young man has had the benefit of association with a group of physicians to whom he has become an individual. He has profited by attendance upon meetings, so that he is well qualified to take part in the scientific and business activities of a society wherever he locates. This serves to create a favorable impression at once upon his community as indicating an interest in the best things of the medical profession, and, in turn, helps him to gain the respect and confidence of his older brethren in that section. Needless to say, the young man thus early trained will not be likely to depart from the path of medical righteousness.

The increase of councilors to eleven has worked well in adding a willing worker to our ranks, and has made for greater interest in the district served. A custom worthy of emulation has been that of taking along several active members of a local society on the occasion of visits to other medical gatherings, affording stimulation by precept and example, and assuring the presence of a large number of members when such a program is announced.

The attendance, interest, scientific programs, and goodfellowship that have marked the many councilor district meetings at which it has been our good fortune to be present, serve to indicate the live appreciation by our membership of the good that results from contact with their fellows. The by-laws stipulate that one or more district meetings shall be held each year. The routine work connected with the notices and details are well entrusted to our State Society secretary who performs these duties with promptness and dispatch. Some geographical sections hold annual clinic days, and these likewise are largely attended. A whole day spent in this laudable manner brings great reward. It may be

*Delivered before the General Meeting of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 4, 1927.

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well, however, to bear in mind that the councilor district meetings should not be neglected, but that the same effort put forth will bring equal results in each instance.

In this connection, group meetings of the Woman's Auxiliary could be timed for such occasions, and it is possible that a similar division into districts would augment the efforts of the ladies and promote the formation of other branches in strategic sections.

It is suggested that a short session of the district censors should be held during a councilor district gathering, inasmuch as exchange of views and experiences by these important representatives would further the ethical interests of the Society. Needless to remark, there should be a constant close personal relation between the councilor and his group of district censors.

The populous and well-organized county society is under obligation to its less favored neighbor. In this State there are societies with small membership adjacent to those rich in numbers and influence but unable to undergo the expense of providing programs. It may be that arrangement with the stronger unit could be made for printing the programs and personal items of the smaller body, and the circulation of the combined programs would serve the double purpose of a wider range of dissemination and a reminder to look after the needy one. Another way by which the smaller county societies may be helped would be by the publication of a bulletin issued at regular intervals from the office of the State Society secretary, incorporating the programs and items of interest from all societies that do not print their own local bulletin. This could be made a clearing house in many respects, and would lead to interchange of speakers, programs, and suggestions that would justify the moderate expense involved.

The joy of possession of a home by any county society brings its own reward for whatever apparent sacrifice of time or money which may be made to attain that worthy end. We are pleased to report activities along this line in several counties during the past year, the latest one being Lycoming County. The preservation of records, books, photographs, diplomas, and other documents is a matter of no small civic importance. Definite provision should be made by the State Society leading to this end, preferably arranging for sufficient room space in the home of the State Society for this purpose. The Board of Trustees has wisely recognized the need for more housing facilities at Harrisburg and is actively engaged in an endeavor to meet this need.

This State is rich in the record of the making of a doctor. From the time that John Morgan founded the first medical college in 1765 to the present, our several medical institutions have been beehives of industry in this respect, and this continues to be our great duty. In spite of the wealth of Crœsus lavished in other sections of the country we choose to believe that the medical students from the Keystone State have inculcated in them the finest traits which constitute the real physician. The fetish that measures the worth of a man's education simply by the number of hours spent—whether wisely or not—in following an arbitrary curriculum, disregarding his adaptability, gives rise to the question as to whether a change in this respect is not an immediate necessity. Holding out to a student the will-o'-the-wisp that, because he is enrolled in an institution of high standing he thereby becomes a leader, does not work out well in fact. By reason of this, many a good prospect for a general practitioner is spoiled. Leaders are born, not made. The matter of higher premedical educational requirements is surely overdone, and we are hoping for a return to a sensible level that will allow the young man to complete his medical educational requirements at an earlier age than is now possible.

After following the proceedings of many sessions of the Legislature in connection with medical legislative matters, we note the prospect of a happy solution of a difficult problem in respect to the healing art. We are heartened by the recent appointment by Governor Fisher of a well-balanced commission whose duty it is to study the subject of preprofessional and medical education and to present recommendations at the 1928 legislative session. We are assured that this course of procedure will eventuate in formulation of a bill that will demand a sufficient amount of fundamental preparation to rule out the mushroom institutions that are foisting the various cults upon the citizens of this Commonwealth. Since civilization began, there have always existed those who advocate strange doctrines, and the present generation seems to be more than usually infested by the insidious claims of the various cults. We feel that justice and equality will rule under the guidance of the chairman of the Commission, Senator W. C. Freeman, of Lebanon, whose counsel and advice have always been of great value to the medical profession.

A lesson well learned by the State Society during the past year has been that, while we are supposed to make friends of the children of Mammon, the admonition to avoid entangling alliances still holds good. The shortest distance

between two points—in geometry and morals—is a straight line, and the medical profession would do well to bear this in mind for future guidance, especially as applied to legislation.

The commission appointed a few years ago to study the very important subject of workmen's compensation has functioned well. Its recommendations were embodied in a bill that was introduced into the last Legislature, but which was not passed despite specious assurances offered from certain quarters. "Defeated but not dismayed" may well be descriptive of the present standing of our efforts to secure justice from corporations.

The case of J. S. Gracey vs. Brann and Stewart, Workmen's Compensation Agreement Appeal No. 5251, is of extreme importance to the medical profession, as it practically reversed the decision of Mr. Mackey and decided that Dr. Walters was entitled to compensation for special services rendered, notwithstanding the fact that he was on the regular hospital staff. This decision by State Commissioner Paul W. Houck is of far-reaching application, and if upheld by the higher courts will right a sore wrong suffered by the medical profession since the Mackey decision was handed down.

Three years ago an organization was effected for quarterly conferences between the chief officers of the State Societies of New Jersey, New York, and Pennsylvania, with much good resulting therefrom. We are honored by having at this session of the Society several of the officers from those and other States as our guests, and we herewith tender to them a cordial welcome and greeting. Your House of Delegates has properly agreed to care for the financial outlay necessary for the officers of this State to function at these conferences. We can say with candor that the efforts put forth in this direction will bring rich return, for there has come a clarity of understanding, a mutual pooling of interests, unity of purpose, and coöperation that will serve to promote close association between the States represented which, in turn, will be of immense value when it becomes necessary to advocate new, or change old methods of working.

For many years the physician, dentist, and pharmacist, while working in the same field of health matters, were widely at variance with regard to methods to pursue to reach their common goal. During the past decade there has come to these three branches of the healing art a mutual understanding, a parallelism of approach, union of organization, and coöperation that presages in the near future a welding of our forces that will work out for the public good. Dentists are eligible to associate membership in our county societies, and it is entirely proper to consider the extension of this privilege to graduates in pharmacy of outstanding worth in their profession. The present educational requirements for dentists and pharmacists surely argues for a high type of mind that would work well with medicine.

Special attention of the membership of the State Society and Woman's Auxiliary is invited to the coming vote on the question of appropriating $50,000,000 through a bond issue to improve Pennsylvania's facilities for treatment and prevention of mental and moral delinquency, for housing, erection, or extension of buildings, and providing suitable quarters for medical and other assistants needed to care for the mentally affected.

Much progress has been made in the fight for diphtheria prevention, and the slogan "No diphtheria by 1930" is not an idle dream. To Cambria County goes the honor for having shown the greatest interest in this work. Credit is also given to coöperation by the State health authorities. Preliminary education of the public through the Red Cross and other organizations paved the way for the success of the campaign. Toxin-antitoxin was furnished by the Health Department at Harrisburg. What has been done by Cambria County can be repeated elsewhere. They report as follows: "The Red Cross does the detail work, collects the fees, the State Health Department furnishes the toxin-antitoxin, but our members are paid $25 a day for their work. Members are called in alphabetical order and given an opportunity to do immunization work. It is team work that has made our campaign a success."

The State Registration Law is now in its second year of existence, if not enforcement. We have knowledge of hairsplitting decisions made by the Board of Medical Education and Licensure that would savor of straining at a gnat but missing the point of active procedure against those who are alleged to be practicing the healing art illegally. There has been willing acceptance of this tax by the great majority of the physicians of Pennsylvania, but there is also a widespread demand that some concrete showing of results shall be made.

The Board of Trustees has functioned regularly, wisely, and well, absences being the exception and then explained by good and sufficient reason. The treasurer of the Society is not required to attend the meetings of the Board. With a thought single to the best interests of the Society, it is recommended that the House of Delegates shall consider this matter and, if fa-

vorably received, shall amend the By-Laws accordingly.

The Atlantic Medical Journal continues to hold high place in the ranks of state journals, under the watchful care and guidance of Editor Hammond. Negotiations are under way looking to a hoped-for inclusion of other coast states in enlarging the scope of the Journal, as indicated by its title "Atlantic." It is suggested that prompt record of events makes good reading matter, but when contributors delay reports for many weeks they cannot expect to secure space that belongs to more recent material. A good county society reporter is of great value in the dissemination and exchange of information through the Journal that serves to act as a clearing house for the benefit of our entire membership.

The executive office functions smoothly, and details for each annual session, as well as the yearly routine work, are carefully attended to so that the success of our present meeting is well assured. Our members are urged to visit 230 State Street, Harrisburg, whenever they are in that city, as they will always receive a cordial welcome.

At this session the new Section on Urology begins to function. While the efforts of those who practice specialties to further their line of work are to be commended, the important point must be borne in mind that the State Society is formed primarily to further the interests of the general practitioner, and that we dare not subdivide our scientific sections too much without detracting from the good of the Society at large. The activities of a scientific section, including its officers, should be cared for by those who are or have been active in their own county societies and who have shown interest in the annual State Society sessions.

By wise and foreseeing plans made some years ago, the Medical Defense Fund has now reached the sum of $37,637.83, and by a small annual allotment, together with the interest on investments, it can carry itself. In this connection, it may be said that not a small part of the work of the trustees and councilors consists in caring for those members who are charged with alleged malpractice. In many instances the physician has neglected to resort to the use of the x-rays before and after treating bone injuries, or release blanks have not been secured by the doctor to protect himself, which makes the work of defense all the more difficult. While these never-ending duties are cheerfully and willingly performed, it may be observed that our members should have a care as to the observance of these simple but vital requirements.

The purpose of the Medical Benevolence Fund, which at present amounts to $41,525.41, is so suggestive as not to need much explanation. Our members, however, have not responded as they should to the support of this worthy enterprise. Emphasis must be placed upon the imperative need for increasing this sum to at least $500,000 so that the interest may be available for the relief of worthy brethren of the craft. In the event of any great catastrophe similar to the recent Mississippi flood, such a fund would be of untold value.

The place of meeting of a county society should, as a rule, be convenient to the greater number of its members. However, those living in the other extreme of a county are entitled to consideration, and it is suggested that this point shall be borne in mind so that the less-favored section of a county may have at least one or two meetings per year.

In keeping with the trend of modern thought, the matter of lay education should constitute a considerable part of our missionary endeavor. Special attention is invited to the report of the Committee on Lay Education, found on page 837 of the September issue of the Journal. A practical way by which this movement could be furthered would be to have the assessments and subscriptions that were formerly allotted to the Medical Legislative Conference diverted to lay education.

The Woman's Auxiliary has made commendable progress during the past year. The organization is now on a working basis, is self-supporting, its meetings are well attended, new county branches are being started, and there is evidence of a healthy growth of sentiment in this direction. We are greatly indebted to the women for their splendid response to our requests, when pernicious legislation threatened to carry, in conducting effective campaigns among their members and friends that added to our strength and defeated many dangerous bills.

Caution suggests investigation of the merits of organizations that seem to have the welfare of the people for their end and aim. Well-established societies, such as the Red Cross, may well be supported; and coöperation freely accorded. Health studies, surveys, contraception teaching, and the like should be shunned. The prime forces back of many of these movements will be found to be chronic or professional office holders, notoriety seekers, and those who eke out a living by feeding at the public trough.

The attendance at the annual sessions of the State Society is steadily increasing. Housing facilities for those in attendance and the demand for floor space for the scientific and technical

exhibits has reached such a stage that only Philadelphia and Pittsburgh can conveniently care for them. Scranton, Harrisburg, and Reading have worked wonders in accomplishing splendid results when we have been their guests. Erie promises new hotel facilities within a year or so, and will then be in the running. Regardless of the place of meeting, the financial obligation imposed upon the host, when so frequently repeated, becomes an irksome burden. Some have divided the expense by assessing the component societies of a district, but even this will not always work out satisfactorily. Recommendation is made that the State Society assume the expense of one or two annual sessions, including entertainment features on a moderate scale, as an experiment which could be abandoned if found not to work well.

The Constitution requires that "this Society shall convene in annual session on the first Tuesday in October at such place as may be determined by the House of Delegates.....The House of Delegates may, by a three-fourths vote, which may be taken by mail, change the time or place of meeting of the next session." It will be recalled that this became necessary in arranging for the 1926 session at Philadelphia. Whether it is for the best interest of all to continue this fixed provision or to relegate the duty to the Board of Trustees is for the House of Delegates to determine at its pleasure.

Through the courtesy of the editor of The Atlantic Medical Journal your president will have the privilege of using a page in each issue. Our purpose is to convey to the membership at large such matters as it is deemed important to present promptly rather than to defer until the next annual session. We have at this time, therefore, discussed only a few of the more important activities of our Society, and will invite your attention to the monthly letters that will appear in the Journal.

Your unanimous call extended to me to serve as President of the Medical Society of the State of Pennsylvania is deeply appreciated. It is accepted as a challenge to give to the work of the coming year the best effort of heart and hand of which I am capable, and I herewith pledge my troth.

A Soliloquy

I am a physician.

I am a member of a guild whose constant purpose through the ages has been to heal the sick, make the blind to see, the lame to walk, and to comfort those who mourn.

I am rich in the heritage of history and traditions that have been handed down to me by the Fathers in Medicine. I am bound by the Oath of Hippocrates to be faithful to those traditions and high ideals which bind our guild together in unity.

I should ever maintain a spirit of tolerance and forbearance toward my fellow members of the craft, remembering that we all are human and liable to err.

I must so live that when this mortal coil is shuffled off it may be said of me that I have ever been true to my obligation and that the traditions of medicine have not been sullied by me.

It is my duty to labor for the right; to fight wrong; to seek the good of mankind; to encourage the younger members of my profession; to work shoulder to shoulder with my confreres to attain those laudable aims and purposes, keeping in mind the truth that when we travel together with unanimity of purpose, success will be ours.

"With malice toward none and charity toward all" I pledge myself to those high ideals which are entrusted to me.

2018 Chestnut Street.

MEDICAL EDUCATION AND THE DISTRIBUTION OF PHYSICIANS IN THE UNITED STATES

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Medical education in its relation to the supply and distribution of physicians is a problem of transcendent importance in this country, one that ought to enlist not only the interest of teachers of medicine but also that of educators in general, of scientists, humanists, and legislators. It is a burning question in other countries as well—in England, France, and Germany. In the last-named country there has been a tremendous falling off in the number of medical students—from 15,500 male students in 1913 to 7,196 in 1925, with an increase of female students from 868 to 1,321. As a result, most of the important German medical journals have established regular departments devoted to medical education in which not only teachers and practitioners but also undergraduate medical students voice their opinions freely.

We in this country sometimes take too little account of students' feelings and views, and yet the students are or ought to be mature enough to have worthwhile opinions. A short time ago I happened to attend a banquet of one of the medical fraternities at which the best men in the fourth-year class of the University of Pennsylvania voiced their ideas respecting the curriculum. From the standpoint of the teacher it

was one of the most valuable meetings I ever attended.

Dr. Wm. Allen Pusey, with a courage like that of his ancestors when they fought their way along the Wilderness Road to Kentucky, has attacked the problem in numerous trenchant articles which contain precise data concerning the situation in the United States (*Journal A. M. A.*, January 24 and 31, February 7, 14, and 21, 1925). I shall not repeat the details which can readily be found in these articles and many of which I can confirm from a limited experience and a more restricted inquiry. I might, however, quote a few striking statistics from Dr. Pusey's articles.

Forty counties in Kentucky are without adequate medical service; in Vermont, out of a total of 248 towns, 102 are without physicians; in rural Virginia, the ratio of physicians to population is as 1 to 3,370, as against 1 to 700 or 1 to 1,000 in the better-served states. Even in the State of New York, a number of the smaller places are without doctors. In New Hampshire, as I am privately informed, the situation is serious, quite similar to that of Vermont. But even in the small urban and rural communities in which the number of physicians seems adequate, investigation has shown that the accession of new young physicians to take the place of the older ones is small, and in many regions nil. In some sections not a single newcomer has settled within a period of from ten to fifteen years.

Even when the inducements are alluring, it is often impossible to prevail upon a young physician to go. For example, a friend of mine in an inland town of Pennsylvania, with a small but well-equipped hospital, wanted a surgical assistant and offered $3,500 per annum and board as the initial honorarium. I had notices posted in a number of places, but only one man applied, and he decided not to leave the city.

Another man practicing in the coal regions wanted an assistant, and offered $300 a month without obtaining any one. At another time I was asked to find a man to take a position as resident pathologist, paying a salary of $1,500 in a State Hospital in the coal regions of Pennsylvania. Although I communicated with deans of medical schools and had notices posted in various places, I was unable to find anyone willing to leave the city.

But the country districts are not the only ones inadequately supplied; it is difficult even in the cities to obtain young men to fill dispensary positions, assistantships, and subordinate places in hospitals.

It has been said that the motor car and good roads make it possible for a physician to see more patients and to cover a wider territory than was possible a generation ago, and that fewer doctors are needed to serve a given community. That would be true if it were not for the greater ease, through the telephone, of summoning the doctor which brings it about that for the same number of families a doctor is likely to have a considerably larger number of calls. And further, in former days the doctor in the rural section, and often the town doctor, had little office practice, taking only a small slice out of his working day. In our time, even the country doctor has a sizable office clientele because the automobile and the trolley car facilitate transportation to and from his office. Formerly, these ambulatory patients would not consult the doctor at all, or only when he chanced to come to the house to see some one sick in bed.

The upshot of this whole matter is that while the automobile has greatly extended the radius of the doctor's activity, it and other improved modes of transportation and communication have increased his practice so that his leisure time has not been augmented, but rather has been curtailed.

It has been strenuously contended that there are enough doctors in the United States in proportion to population. Admitting that this statement is true in a certain sense, it clearly overlooks the fact that more and more doctors are being drafted from private practice into full-time salaried positions.

The laboratories, the hospitals, the specialties, the full-time teaching positions, public-health services, insurance and industrial jobs—all of these take a large number of physicians out of the ranks of practitioners. In addition, hospitals are now appointing a larger number of interns than was the custom formerly. For example, the Philadelphia General Hospital at the present time has sixty-two full-time men, including interns, pathologists, etc., on its staff; and it has no more patients per annum than it had ten years ago when the personnel was less than half. I am not citing this last point by way of criticism, for I believe that the larger the staff of a hospital, within reasonable limits, the better the scientific study of patients. I am mentioning it only as one of the contributing causes of the actual shortage of physicians in this country. In other words, the number of what I would designate as *callable doctors* cannot be judged by counting up the number of men having the medical degree.

The whole matter is, after all, a question of supply and demand. Only when the supply of doctors in the cities exceeds the demand will

the recent graduate seek his fortune in the country.

How can we increase the supply and thus meet the shortage of physicians in the rural districts? It seems to me that there are three possible ways: (1) to increase the number of medical schools, (2) to shorten the course leading to the right to practice, (3) to increase the enrollment in existing schools.

(1) *Increase in the number of schools.*—Having brought about a reduction in the number of schools by the elimination of the poor ones, the profession of this country is not likely to view with favor any notable increase in medical schools. Moreover, the running of a medical school even on a mediocre standard involves such vast expense, much of which could not be covered by students' fees, that the promiscuous establishment of new schools is a virtual impossibility. For all practical purposes that method may be dismissed as out of the question at the present time, or at least of but limited scope. Schools of osteopathy and of chiropractic are being established in increasing numbers, but from the point of view of medical education that does not solve the problem. If anything, it complicates it.

(2) *Shortening the course.*—Dr. Pusey, in a most interesting address, has advocated this with many cogent arguments. He would do away entirely with the premedical course, and would take qualified students directly from high school into the medical school. Furthermore he would shorten the medical course to three years, but make one and one-half years' hospital internship compulsory.

I am willing to follow Dr. Pusey in almost any direction, but I cannot follow him here. If it were merely a question of inducing men to study medicine, then the shortening of the course would be an incentive, but the schools are actually turning away hundreds of applicants having the two-years' premedical course, or even a three-years' course. They are turning them away because, having fixed their entrance quota at a certain figure, they cannot accommodate more than a fraction of those that apply. It is here where to my mind the fundamental error in our present system lies, but I shall return to this later.

If the course is shortened by eliminating the premedical years and one year from the medical course, the number of doctors would be increased, but as there are more men willing to meet the higher requirements than are accepted, it would be a pity to lower the requirements if there is another way to increase the medical output. This other way is the one of which I shall now speak.

(3) *Increase in the enrollment.*—That to my mind is the most important means of solving the problem. Are the medical schools—and when I speak of medical schools, I am speaking of the best ones—taking an adequate number of students? Let us look at a few statistics. Philadelphia, with a population of nearly two million, had in 1925, 1,649 medical students. Berlin in 1920-21, directly after the war when things were at a very low ebb and when the city had lost a considerable part of its population, had 2,561 medical students, or nearly a thousand more. Munich, with a present population of 671,000, or about one third that of Philadelphia, has 2,092 medical students; that is, with one third of the population, it has 25 per cent more students. Heidelberg, with a population of less than one twentieth that of Philadelphia, has 581 medical students, or one third of Philadelphia's enrollment.

With unrivaled facilities in every direction, with a large number of high-grade hospitals available for teaching, Philadelphia is not educating its proper quota of doctors. And what is true of Philadelphia is equally true of other large cities having medical schools. The University of Pennsylvania, which has a plant that is unsurpassed—with large laboratory buildings, the University Hospital under its direct control, and the Philadelphia General Hospital, the Pennsylvania Hospital, and others as adjuncts—limits its enrollment in the first two years to 110 men each, and in the third and fourth to 125. Johns Hopkins takes but 90 or 95 men in each of its four classes. Harvard also limits the number in the early years, and so do many if not all of the class-A medical schools.

When we reflect that the number of medical schools has been reduced from about 160 to 79 in the United States, then it is plain that the double restriction is bound to produce a shortage of physicians. We have reduced the number of schools and we have reduced the number of students in the schools, although the population of the country is increasing at the rate of about ten million in a decade.

The restriction in numbers is largely the result of the growing importance, the preponderance almost, of the laboratory branches in medical education. With the laudable desire of giving to every medical student in his first and second years the opportunity of familiarizing himself with laboratory technic in physiology, biochemistry, bacteriology, pathology, and anatomy, it became impossible, if the ideals of the laboratory teachers were to be approached, to handle large classes. Hence the restriction to the number who could be cared for without too much pressure upon teacher and equipment. If it were

only a theory and not a condition that confronted us, I should have nothing to say on this question—whatever limit the laboratory men might set, I should say amen. But there is the shortage—an issue, a condition that must be met, or the state will have to take a hand in the matter. It will ask, "If we give you support, either by direct appropriation or through taxation, we demand of you that you give us in return enough qualified physicians to care for the people of our State." The State of Pennsylvania in a sense has also extraterritorial responsibilities; its neighbors, New Jersey and Delaware, have no medical schools. These states, in large measure, though not exclusively, look to Pennsylvania as their source of supply of medical men.

If it were feasible to increase the laboratory equipment and personnel, it would, of course, be possible to teach larger classes without derogation to the quality of the teaching. But for most schools, the expenditures involved in such an increase are unobtainable. Few, if any, could procure from their university treasuries an increase of 30 per cent or more in their budgets for the first two years.

To return to the laboratory and its relation to enrollment. If the present organization of the laboratory is an obstacle to increased matriculation, then the organization must be modified. In the present exigency, some way must be found to give laboratory instruction to, let us say, from 30 to 50 per cent more students. It can be done if those in charge of the fundamental branches are willing to coöperate in working out a plan to meet the present needs. While theoretically desirable, it is not essential that every student should handle the highly specialized instruments rarely if ever used by men in practice.

I trust I may not be charged with being a reactionary. I value scientific work as highly as any one, and feel that the medical school should provide for the ambitious student every opportunity to do research work. Fortunately, in our best schools the scientific chairs are filled by men fully equipped to give to such exceptional students all the opportunities they desire.

A few words, now, about the curriculum—for medical education is not only a question of numbers, but it is also a question of quality and quantity of teaching. I should like to discuss this phase at length, but as that is not possible at this time I shall limit myself to a few reflections on the present curriculum.

I am not in favor of requiring a preliminary college degree at the end of a four-year college course. A three-year premedical course should be the maximum, and should lead up to a college degree at the end of the freshman year.

I have the highest admiration for Dr. Abraham Flexner, and consider his book on *Medical Education* one of the finest pieces of pedagogic literature ever published. Nevertheless, I am compelled to differ with him as to the logic of his "logical plan of medical education." He holds that the medical student should pass from one of the fundamental sciences to another, and should complete them all before making contact with clinical medicine. He says (p. 111): "The student of architecture does not begin by watching the architect or helping him to make plans, draw up specifications and build houses; nor does he play about for years in an architect's office, 'something between a hindrance and a help.' He applies himself to the study of mathematics, physics, and drawing." But Dr. Flexner forgets that the finest Gothic and Romanesque architecture was produced by just such men who, like the unknown builder of Chartres, like Bramante, Brunelleschi, and Michelangelo, began as apprentices to artists and artisans.

I feel that something of the actual craft of medicine, something of the clinical branches, should be introduced early in the medical course, but not in tabloid form. I would let the freshmen attend one weekly clinic given to third-year men, and the second-year men one weekly clinic to the third- or fourth-year men. And when I use the word clinic I do not mean a didactic lecture. And at such a clinic, the teacher should not talk down to the lower classmen.

There is another point that interests me; namely, that of latitude in the curriculum. If medicine is to take its proper place as a university branch, then it must get away from the hard-and-fast system which Dr. Pusey calls "rigid standardization," and which is so similar to that prevailing in secondary schools and most undergraduate colleges. The freedom enjoyed by French and German students, so well portrayed by Dr. Flexner, is worthy of transplantation to this country. Even the migratory habit that causes German students to take one course here and another there, wherever they can get the best instruction, might be cultivated by us. It would make for a broader outlook, for a greater culture, for earlier mental independence.

I have said nothing about full-time or part-time clinical chairs; this is a highly controversial subject somewhat foreign to that of the distribution of doctors and the medical curriculum. Its proper consideration requires more space than is here available.

Before closing, I want to refer once more to the matter of rural practice. If we wish to increase the number of physicians in the country districts, it is not only necessary to turn out more

physicians, it is also necessary to make rural practice more attractive. I have found as a teacher that many students coming from small towns do not go back to them. It is not that they love the country less but that they love the city more. During the last ten years the city has afforded exceptional opportunities for remunerative practice and professional advancement.

One reason that deters young men from going to the country districts is lack of hospitals. It is the job of the communities that are suffering from the lack of properly trained physicians to provide hospitals—county or community hospitals open to all men in good standing. That would be a great boon, and, combined with active county medical societies and graduate extension courses under university management, would help to solve our problem.

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THE PROMISCUOUS SALE OF HYPNOTICS*

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The announcement of the birth of some new form of hypnotic is almost a weekly occurrence. May we inquire if the rapid increase in the number of these preparations (especially those belonging to the barbital group) is in the interest of suffering humanity, or is it commercial advantage, primarily, that is the incentive to their manufacture? It does appear that the methods used in advertising them are not only for the purpose of acquainting the medical profession with their soothing effects, but also an appeal to the general public who can readily secure them for self-medication.

A recent report filed in the narcotic division in Washington states that there is one manufacturing firm so persistent in advertising in all journals allied with the medical and pharmaceutical professions that its chief objective seems to be to make its products so well known that they will be taken up by the laity and extensively used by them. A rather attractive booklet, "The Mystery of Sleep," was broadcast recently. The following quotation is on the title page: "Whoever is first to discover the true cause of natural sleep and the mode in which it may be commanded by art, for the service of mankind, will be the greatest healer who has up to this age, helped to make medicine immortal."

Quoting from a letter recently mailed to doctors, a certain manufacturer advised the physician (when sleeplessness and nervousness beset him) to try a dose or two of his product, and its pleasing effect would show why the manufacturer was eager for him to become acquainted with the remedy.

In order to show that some members of the medical profession are seriously alarmed at the increased tendency toward use of these hypnotic drugs, the following citations are offered from recent writings in the *Journal A. M. A.* and other medical publications:

Dr. Irving J. Sands, instructor in neurology at Columbia University and associate neurologist in two of the New York hospitals, after giving some historical facts as to the discovery of this group of drugs, discusses thoroughly their physiologic effect, and reports a number of cases treated for addiction. In conclusion, he states that these drugs should be sold only on physicians' prescriptions. He recommends that physicians should be careful to use the proper chemical term when ordering.

Drs. Leak and Ware, of Los Angeles, California, contribute an article on the value of these hypnotic drugs and their serious after-effects. These authors hold that the ease with which such drugs as veronal may be obtained is a public menace, and that they should be placed on the list as poisons and sold only on physicians' prescriptions.

The September, 1926, bulletin from the Public Health Department of Philadelphia advises that in the administration of luminal to epileptics the drug should be decreased gradually to the smallest dose capable of holding the patient, as prolonged administration of the agent is said by some to cause mental deterioration.

Quoting from the writings of a well-known internist in reference to the action of luminal, "There are three distinct effects noticed in its administration: first, the sedative effect; second, vertigo and decided hypnotic which might be termed 'dopey'; and the third, skin eruptions which are rather resistant to treatment." He advises, therefore, that it is decidedly unwise to have these drugs sold by mail and to persons who are not observed and have not been examined by physicians.

Dr. Henry I. Klopp, superintendent of the Allentown State Hospital, commenting upon allonal, veronal, luminal, barbital, also sulphonal and trional, states that none of the aforementioned drugs should be dispensed over the drug-store counter except by a physician's prescription. The reason for this is that any lay person can buy these drugs. This is dangerous, as they are often taken at the suggestion of some lay individual.

*Read before the Pharmaceutical Association of Pennsylania, at the annual session, Buena Vista, Pa., June 20, 1927.

He recommends enactment of a law whereby it would become a felony for a clerk in a drug store to dispense any hypnotic or sedative drug over the counter except by the certificate of a reputable physician, and that the druggist should be compelled to make a monthly report on sales.

The superintendent of one of the large sanatoria near Philadelphia writes that veronal and its allies are decidedly habit-forming drugs, and it should not be possible for the laity to secure them except on prescription.

A survey of recent wholesale reports shows an increased output of these drugs, with two exceptions—sulphonal and trional.

Some of the pharmacists in certain sections of our large cities have refused to sell these drugs except on a physician's prescription. When asked why they took this stand, they said that many of the people who call for them are undesirable customers. The chief users of these remedies are not only from the underworld, as one might think, but from a certain group of the wealthy (leisure) class, known to have a psychotic tendency.

Great Britain, as well as a few of our states, has enacted laws for the control of hypnotics. The states have had considerable difficulty on account of the traffic carried on by vendors. New York is considering the repeal of its law. Surely, if as a last resort we are forced to have controlling legislation, it should be a national enactment. Pharmacists should consider carefully any such legislation, for there is no other group of our citizenry whose duties are so regulated as the pharmacists.

It is not my intention to discredit the therapeutic value of hypnotic drugs, but to ask the question: "Is there a promiscuous sale which should be controlled, and if so, would it be wise for the physicians and pharmacists to discuss this subject broadly, and at least to consider some plan of regulation?"

The pharmacist might suggest that if it can be definitely shown that the recurrent use of these drugs exerts a harmful physiologic effect upon the user, this fact should be required to be set forth on the package in which the drug is marketed, in the plainest, most prominent manner—possibly printed in ink of a color different from that of the body of the text, and even in larger print. Thus it would rivet the attention of the user upon the notice. By this method of giving due publicity as to careful use, advertising control would be established, which is valuable, and the keeping of records and making of reports (of which there already are more than enough) would be rendered unnecessary.

BLOOD SEDIMENTATION TIME IN ACUTE RHEUMATIC FEVER

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To determine when the activity of acute rheumatic infection has definitely ceased is a problem often difficult to solve. The usual custom is to advise rest in bed for at least three weeks after the temperature has reached normal, in the simple joint cases, and for several months, in the presence of evident carditis. In view of the fact that the commonest cause of cardiac failure in chronic valvular disease is an acute reinfection of the valves, the importance of continuing treatment until the fire is out at once becomes evident.

Drs. Swift, Miller, and Boots (*Journal of Clinical Investigation,* Dec., 1924), in an endeavor to find when the infection is terminated, called attention to the value of frequent leukocyte counts. They concluded that a persistently normal count, properly controlled, over a considerable time, probably indicates inactivity. The purpose of the present study has been to determine if frequent observations of the blood sedimentation time in the same individual, may serve as a guide to the duration of bed rest necessary, especially in cases of rheumatic heart disease.

An abundant literature in regard to the sedimentation time of erythrocytes has appeared, more especially in Germany. While there is still much to be learned about the factors causing an increased sedimentation rate, it has been definitely established that the rate in normal persons varies from 500 to 1,200 minutes, and that it is accelerated in infections (including syphilis and tuberculosis), malignant tumors, diabetes, pregnancy, and menstruation.

Dr. Friedlander *(American Journal of Gynecology and Obstetrics)* has written exhaustively on the subject, especially indicating its value in gynecology. In his opinion, a sedimentation rate of 60 minutes means that pelvic inflammation is still active, and a rate of 120 minutes means that operation may be performed with safety.

Dr. Cutler (*American Journal of the Medical Sciences,* June, 1926), in his work on pulmonary tuberculosis, reaches the rather striking conclusion that the sedimentation rate is more valuable in indicating the degree of activity of the infection than pulse, temperature, or gain in weight.

Herrmann (*Münchener medizinische Wochenschrift,* Dec., 1924) has studied sedimentation time in all classes of rheumatism. In 46 cases of acute rheumatic fever and in 64 cases of gono-arthritis he found an accelerated sedimentation in the early stages of the disease, and that this returned to normal much more slowly than

the temperature, pulse, and leukocyte count. The fact that sedimentation reached normal more quickly in gono-arthritis than in rheumatic fever he ascribed to the myocardial damage always present in the latter affection. On the other hand, in 27 cases of arthritis deformans and in 39 cases of sciatica there was no acceleration of sedimentation time. He concludes that in the presence of an increased rate, the case is probably not one of pure sciatica. He does not indicate what he considers a normal sedimentation rate in a convalescent rheumatic.

In the present study, the technic employed has been that outlined by Linzenmayer, and attention is especially called to the great simplicity of the test; greater in the opinion of the writer, than that of a leukocyte count. Furthermore, the gradations are so much wider than is permitted in leukocyte counts, where variations of a few hundred may be of significance, that the curve is easier to follow. The physician's ordinary hypodermic syringe may be employed in drawing blood from the elbow vein, and if necessary, the specimen may be placed on the floor of his automobile, to be studied while he is on his rounds.

Some thirty cases of rheumatic fever have been studied. The accompanying chart illustrates the results obtained over a period of eighteen months in eight of these. Similar results have been obtained with the others. It will be observed that only two of the eight have sedimentation figures which approximate the normal, even though most of the patients are apparently in perfect health.

The case which, at its termination, had the slowest sedimentation time, F. J., was a pericarditis in a boy of 17, with fever of only five days' duration, and no joint symptoms. Clinical improvement in this case was especially rapid, and a sedimentation time of 350 minutes twenty days after the onset encouraged the belief that bed rest might soon be discontinued. Normal physical activity was resumed in three months with no physical signs and no apparent ill effects.

The second case, W. W. J., a boy aged 18, had fever of six days' duration, acute arthritis for eight days, with accompanying signs of endocarditis. It was possible to give him the benefit of ideal treatment, namely, six months in bed at absolute rest, followed by six months of careful supervision, and his is the only case in the series where a definite rheumatic fever has shown a normal sedimentation time within a year of the onset of the disease. It is further noteworthy that his sedimentation time continued to lengthen after repeated leukocyte counts over a period of several weeks had been normal. His present condition is excellent, though there is a distinct mitral murmur.

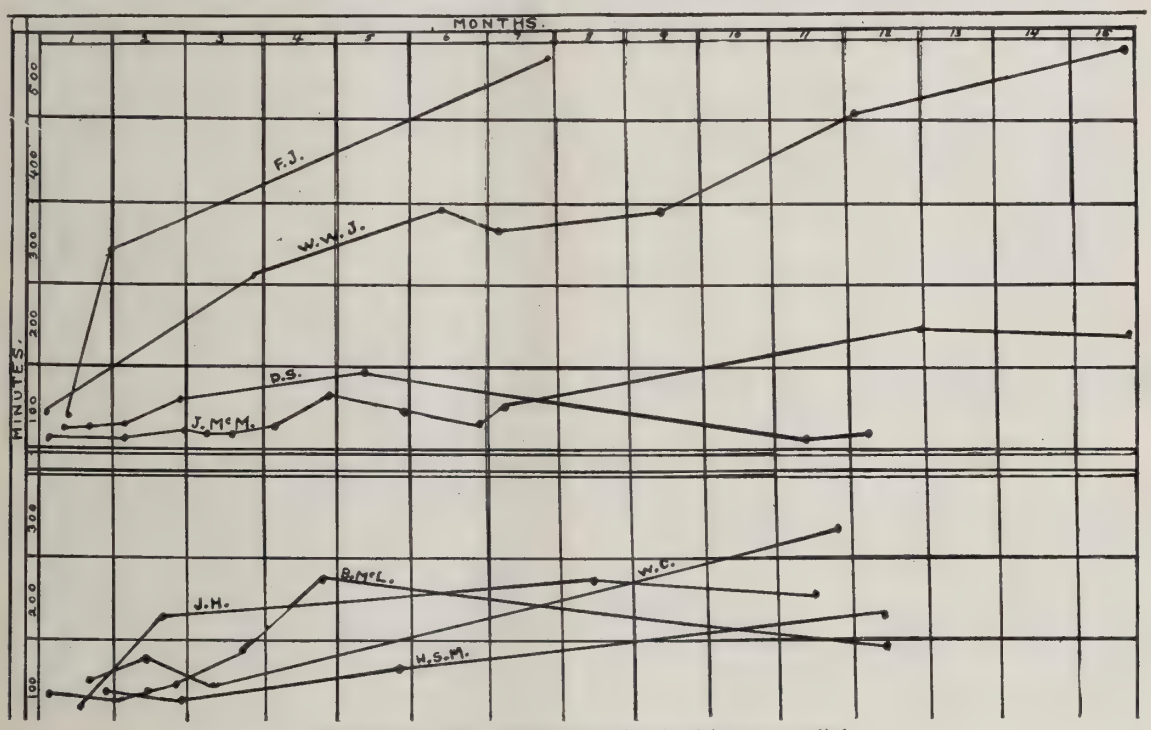

Chart showing blood sedimentation time in eight cases studied.

J. McM., a boy aged 19, had an intense arthritis, fever of fifty days' duration, endopericarditis and massive pleural effusion. Rest in his case was continued for three months after a normal temperature was reached, and he has only now, six months later, resumed moderate exercise, but he has occasional rheumatic twinges, and, as Alexander expressed it (*Medical Journal and Record,* June 4, 1924), "acute exacerbations may be expected."

The case with the fastest terminal sedimentation time, was a boy of 12, D. S., with acute endocarditis. After a stay of two months in the hospital, he left against

advice, with a sedimentation time of 60 minutes, was moderately well for four months, but later developed an abnormal temperature, with signs of fresh cardiac damage, to which he finally succumbed, after readmittance to the hospital.

The other cases on the chart are in adults, one woman and three men, with acute rheumatic joints but without apparent cardiac involvement. They are all at work now, one year later, but two of them (B. L. and H. S. M.) confess to occasional lameness.

The rôle that focal infection may play in causing continued rapidity in sedimentation time in these cases is hard to determine. The first three mentioned had previously had tonsillectomies, and none of the group had obvious foci, unless it is taken for granted that every tonsil is a focus, a position about which there may be difference of opinion. It is not improbable that sedimentation time may in the future be used as a means of determining the presence of unsuspected foci.

Conclusion

It seems probable that blood sedimentation time may be of value in emphasizing the long continuance of activity in rheumatic infection, and possibly also in determining when such activity has ceased.

Acknowledgment is made to Dr. W. P. Belk for suggestions in preparing this paper.

MENTAL HYGIENE; ITS RELATION TO MEDICINE*†

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Mental hygiene may be considered as a special subject dealing with the mental health of the individual, groups, societies, or states. It is the counterpart of physical hygiene. Mental hygiene may also be considered as a movement to encourage study of the preservation of mental health—prevention of mental and nervous diseases; raising the standard of care and treatment of those suffering from mental diseases and defects; dissemination of reliable information on the subject; recognition of the relationship of mental factors to problems of industry, dependency, delinquency, and crime; and organization of national, state, and local bodies to further this end.

In reviewing these functions of mental hygiene, we find closely interwoven the fundamentals of the science of medicine. The term "medicine" embraces the hospital, the nurse, and the physician. Medicine has borne and always will bear an intimate relationship to any subject dealing with health, the prevention of disease, and the improvement of social and economic conditions. Physical hygiene has been recognized as a part of medicine for years, and its principles taught as fundamentals necessary to a medical degree. Its application to the individual was brought about through the coöperation of medical bodies and other social groups. A knowledge of mental health and the prevention of mental diseases has long since been recognized by our medical schools as a requisite to medical knowledge, and its application to each individual of society depends on the coöperative efforts of medical and social bodies. Today such efforts are being made, and these combined efforts have been termed the "mental-hygiene movement." This paper deals with this movement and the rôle physicians are to play in it.

The mental-hygiene movement came into existence through the efforts of Clifford W. Beers, a gentleman who had personal experience with a mental disorder. These experiences are portrayed in a book written by him, "The Mind That Found Itself." Beer's efforts began to crystallize in 1909, when the National Committee for Mental Hygiene was formed, with functions devoted to the preservation of mental health, the prevention of mental disease, the dissemination of knowledge to this end, and improvement in the care and treatment of the mentally ill. Immediately there began to be organized mental-hygiene committees throughout the United States. The Mental Hygiene Committee of the Pennsylvania Public Charities Association functions in a capacity similar to other mental hygiene committees, as outlined in the national movement. The growth of the movement has been rapid, and through the efforts of Mr. Beers, who has recently visited England, its chances for international recognition are good. His efforts may culminate in a proposed international congress of mental hygiene.

The need of such an organization in 1909 was paramount. Despite the teachings in our medical schools and the efforts of institutional physicians and psychiatrists, mental medicine had not showed the progress of its sister branches of medicine, and, aside from the emphasis placed on the subject by our medical schools, little popular interest was manifest. As a result, there prevailed in the mind of the public traditions concerning mental diseases of the early periods—such as false religious beliefs, the incurable nature of the disease, the disgrace attached to mental disorders, the secretiveness of the family of an individual so afflicted. The community looked upon these patients askance; "out of sight, out of mind" was the slogan, and so they were sent to asylums or retreats.

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* Read before the Montour County Medical Society.
† From the Danville State Hospital, Danville, Pa.

These asylums varied considerably in the type of their governmental agencies and in their internal administration. Some few employed modern methods of treatment. There was no uniform system of classification of diseases. Medical staffs confined themselves to a general supervision of the physical. Training schools did not universally exist in these institutions, while diversional and recreational agencies were generally and not specifically applied as treatment measures. The doors of general hospitals were closed to the mentally ill. There were no community-service activities, and public education had not been visualized. Mental clinics and their wide field of usefulness were yet to revolutionize our first aid to the mentally ill. In the midst of this situation there were ambitious administrators who made their voices heard only with difficulty. The relation of mental disease to crime was not considered except from the legal standpoint, and there was no attempt at public enlightenment as to mental maladies, their early recognition, prevention, and treatment. The importance of environment and training of the child was lightly considered.

Today the situation has begun to show signs of change. Our goal is definitely placed, and as time has passed, obstacles have been overcome. Through the efforts of mental hygiene workers, medical societies, and philanthropic bodies great strides have been made. The public has begun to realize its responsibilities. Our governmental agencies of control are beginning to recognize the importance of mental health, and have created more liberal laws in rendering care to the mentally afflicted by providing for maintenance, scientific study, and the construction of buildings. Definite working classifications of mental diseases have been agreed upon, definite standards set and types of buildings designed, and therapeutic facilities have been recognized. At the last meeting of the American Psychiatric Association, requirements were established for a class-A mental hospital. Community-service departments of mental hospitals have been organized. Functioning through mental clinics, they aid the mentally ill patient in the field, render services to courts and schools, and last but not least aid our great educational system of teachers and pupils through lectures dealing with abnormal psychology and mental hygiene.

Despite this progress, a general review of the situation reveals some rather appalling facts. In 1925 there were 300,000 patients suffering from mental diseases in institutions of the United States. It has been estimated that there are 60,000 new patients admitted yearly to mental hospitals. The annual cost of maintenance in institutions for mental diseases is about $260 per patient, making the total cost for one year for patients housed in mental hospitals of the United States $78,000,000. If we add to this sum $300,000,000, the estimated economic loss on these 300,000 patients, the total cost will be $378,000,000. These figures, comparatively speaking, exceed the entire value of the wheat, corn, tobacco, dairy, and beef products exported from our country.

When we turn to the so-called mental defective, we cannot calculate in dollars and cents the exact cost to the nation. We do know there are approximately twenty mental defectives to every thousand American school children. We do know that 500,000 men, women, boys, and girls enter prisons and reformatories every year; that 50 to 60 per cent of this number are mentally deficient; and that the apprehension and conviction of these individuals cost $500,000,000. Recent figures by Roberts show that $3,000,000,000, a sum greater than that required to operate the United States Government, represents the loot of burglars, embezzlers, and bandits, and that 75 per cent of all crimes committed through burglary and robbery are the work of youths under twenty-five years of age. We also know it has been estimated that there are 300,000 feeble-minded individuals at large; that during the war 26,000 men were rejected on account of mental defect; that crime is increasing; and that epileptics make up a fair proportion of our criminals.

Statistics are not available as to the relative frequency of mental difficulties in the attempt at adaptation to social or industrial environment, those groups not coming within the pale of true mental disease or defect, and ranging from a state of unhappiness to neurotic and psychoneurotic conditions. Neither are we able to compute in dollars and cents the economic loss through these, nor the value in gold or silver of that lack of human peace and happiness which the world values so highly.

If we analyze the causes of this existing situation, we shall find that it has been brought about through ignorance, an ignorance which overlooks heredity, environmental, social, industrial, and moral factors. We find that under the robes of ignorance, hereditary factors continue to reap their toll in 50 per cent of the cases. We find that mental defectives have been permitted to procreate their kind, and children have been brought into the world with a complete disregard for their right to be well born. We find that syphilis exacts a toll of 15 per cent and alcohol about 10 per cent. We find that faulty home training is responsible for vicious mental habits,

and that our educational systems, in their attempt to carry on thorough methods of teaching, have tried to instruct theoretically many pupils who are more adapted to vocational work. The most outstanding feature is society's ignorance of mental diseases, and 'tis painful to see that whereas human beings passed from the worship of totem poles, snakes, and false gods to the Christian religion, their views and attitude toward the inalienable rights of a mental patient have not materially changed in the passing centuries, and they still cling to this early belief as the leach to the water log.

This analysis, though brief in outline, indicates the tremendous field ahead of us. How can medicine represented by physicians, scientists, hospitals, nurses, and social workers lend its aid to the great movement of mental hygiene? As I see it, the physicians are the chassis and gasoline of the entire movement. On them depends the entire success or failure of the movement, for if any know about mental disease and defects, they are those physicians and scientists enlisted under the banner of Hippocrates. To my mind, we cannot maintain our position in this great movement unless we properly train ourselves in the art of mental medicine, develop our hospitals, mental and general, to the highest point of efficiency, and with well-organized community-service departments aid in disseminating knowledge relating to the early recognition, prevention, and appropriate treatment of the mentally ill.

The rôle and training of the physician is paramount. He is the first called in physical or mental distress. Is he qualified professionally to recognize mentally retarded children? Is he qualified to determine the presence of mental defect? Is he able to recognize early mental disease and institute appropriate treatment in the field? Is he able to differentiate the intramural type from the extramural type? Has he a working knowledge of the various therapies and their application as used in mental hospitals? These are the questions each one must answer for himself. I personally believe that the physicians of the future will have a greater background of mental disease and defect before passing the State Board than you and I had. I believe I can visualize a greater emphasis placed on the relation of the physical to the mental in our college curriculum; and the day is not far distant when intense training in the care of the mentally ill will be a requisite of our State Board. Many medical students now are seeking a three-months' training in mental hospitals during their junior vacation. Two years ago, the Danville State Hospital organized such a service, and already we have several applicants for the next year. I see no objection to admitting students during their sophomore summer periods, nor to this requirement being fulfilled before graduation. I certainly would be averse to adding any more service in so-called hospital training after graduation unless it is optional with the physician.

To those of us in whom these foregoing statements arouse regret for bygone opportunities, I say this need not be the case. Our university extension courses carry as a part of their program subjects relating to mental diseases. Furthermore, through health bulletins and clinics offered by State mental hospitals, a physician in practice can revive his fundamental knowledge of the mind, its mechanism, and the recognition, classification, and treatment of mental diseases. These institutions will also provide speakers for scientific society meetings. Furthermore, from the mental clinics, whose function is to serve the mental patient, you will receive the benefit of psychiatric consultation in indigent cases.

One of the most crying needs of mental medicine today is a corps of scientific laboratory investigators—men who recognize the brain as the organ of the mind; who know that its physiologic function bears a dependable relationship to the normal mind and its mechanism, clinically manifested as normal feeling, thinking, and acting; and who know that abnormal feeling, thinking, and acting is due to a disease of the brain as a result of definite causes with resulting specific lesions. These men are needed to lift psychiatry from the field of the semicultism, sex insults, dream interpretation, and the subconscious exploitation of those in whose hands the subject has become one of the isms and schisms and passing fads and fancies. When this is done, mental medicine will regain its place with other specialties, a place recognized by our fathers sixty to seventy years ago, but which was lost in the advance of scientific medicine.

The rôle of the general and mental hospital offers many possibilities to the mentally ill. I know the sentiment prevailing among general hospitals toward mental cases. This sentiment is not well founded. All types of mental patients can be treated in a general hospital except suicides, homicides, and violent, noisy, unclean, destructive types. Through the out-patient neurologic clinics a tremendous service to the mentally ill of the community may be rendered. Many of them also can be treated in their homes. If the clinics are known to the public as advocates of home treatment rather than of commitment their attendance will twice double. It is a pleasure to note in our field work the splendid coöperation of the general hospitals which will-

ingly accept cases recommended by the clinical director. It is also gratifying to note the splendid coöperation of the Geisinger Memorial Hospital, which admits for surgical operations patients from the Danville State Hospital who do not have conduct disorders.

The mental hospitals of today are assuming a wide variety of activities in their relationship to the mentally ill. The changes in this respect in the last five years have been almost revolutionary. The hospitals are assuming their responsibility for the mentally ill of their community, and admitting that their function is not only to give intramural care to the mentally ill but to render a community service in the field by means of mental clinics and public education through health bulletins, talks before parent-teacher associations, civic bodies, fraternal organizations, and the instruction of teachers and prospective parents through well-prepared and ably presented courses dealing with abnormal psychology and mental hygiene at normal schools, colleges, and universities. Furthermore, mental hospitals are treatment institutions whose methods include S. Weir Mitchell's modified rest, hydrotherapy, physical therapy, occupational therapy, x-ray, occupations, diversions and recreations, and the full use of physical and laboratory investigations in the study of cases. The present executives of the Department of Welfare are emphasizing these policies, and the institutions are most heartily coöperating.

To illustrate the practical working of such activities of a mental hospital, I should like to refer to our institution at Danville. This is one of the most beautifully situated in Pennsylvania. Its physical features and special therapies are good. It has a staff well equipped and trained, fortified with graduates of our own nursing school, which was one of the first organized for mental nurses. It has a community-service department and a director of its activities of whom we are justly proud. Under this department are operated eight mental clinics in our hospital district of twelve counties. Annually we treat intramurally 2,000 patients. In the field in the last two years we have rendered service to 1,000 new patients in their homes and communities. This department is continually rendering service to the homes, the schools, the courts, and various civic organizations. It is laying tremendous stress on the proper development of the child. Through this department a course of lectures on mental hygiene is being delivered to thousands of students and prospective teachers at Bloomsburg Normal School, the Lock Haven Normal School, Bucknell University, State College, and Susquehanna University. These are followed by clinics at the hospital, and last year approximately 2,500 to 3,000 students visited the institution. In addition to these, clinics are held twice yearly at the hospital for physicians in the district. These physicians are also on our *Health Bulletin* mailing list. In the last four years innumerable talks have been given before various civic, fraternal, and professional bodies by the superintendent and the clinical director. In fact, we have made personal contacts in all the large boroughs and towns in our hospital district.

The attitude of the nurse toward the mental patient is subject to change. The average nurse in field practice throws up her hands on the first evidence that she is dealing with a mental patient. Only recently in consultation such a situation confronted us. This is a wrong attitude, and is subject to change by virtue of the fact that the Board for Registration of Nurses has inserted into the requirements of the training schools a definite number of lecture hours dealing with mental nursing, and the Danville State Hospital and staffs of other mental hospitals are conducting courses of lectures on the subject in general hospitals in their respective districts. These are timely changes. A public-health nurse without training in abnormal psychology cannot properly function in her community contacts. A field nurse who knows only hospitalization of the maimed and mentally ill in the field is still living in a period of ancient history.

In conclusion, I would repeat that the relationship of medicine to mental hygiene will depend upon the qualifications of physicians, hospital administrators, nurses, and social workers who give their professional services to the mental health of the community. We must establish and maintain a new and definite attitude toward mental illness. We can no longer permit that great gap to exist between physical and mental diseases, devoting all our efforts to mental disorders, thereby segregating them, as it were, on an island of isolation. We must not afford new opportunities to the so-called cults for abuse, under false guidance and suggestion, of a great group of neurotics and psychoneurotics; but instead we must include in the field of medicine both diseases of mind and body.

Let us bear in mind the remarks of Dr. Ray Lyman Wilbur, ex-president of the American Medical Association, who said: "The human mind, the human will and human personality will be as important for the medical student of today when he comes to full practice as typhoid, smallpox and cholera have been for the physicians in the past. Moral and spiritual qualities play as large a part as do the more physical of the biological processes." Commenting on these re-

marks, Thomas W. Salmon said: "If that view represents a practical guide for action, what changes may we not witness during the next few years in medical education, medical practice and medical research." Under such a guide, Salmon describes, working side by side, men who employ anatomic, physiologic, or biochemical terms to describe what they learn from the study of brain processes and psychologic terms to describe what they learn regarding mind processes. "One will deal briefly with states of brain and the other chiefly with states of mind, but each will be familiar with the other's viewpoint and know the value of his approach. Then, and then only will the mysteries of brain and mind and their relations to each other be revealed."

I would go one step further, and say that we have approached the first rung of the ladder. We know the causes of mental retardation in many instances and the remedies for correction. We know that production of mental defectives can be checked at the source by the prevention of their procreation through intermarriage. We know syphilis and its ravages, its prevention and treatment. We know alcoholism and its effect on the mind and how it may be eliminated. We know that childhood, adolescence (puberty), pregnancy, the menopause, and senility are critical periods in mental health. We know that death, shock, and worry write an invisible imprint on the delicate mental mechanism; that the mind develops in a wholesome environment and will respond normally to the stress of life if it is given a strong physical body in which to live, located in an environment conducive to health and beauty. With such a knowledge, let us proceed to aid in the salvage of the mentally ill. Let us lend our efforts to protecting the mental health of society with hope of only one reward—the restoration of mental happiness to those who have been so unfortunate as to lose it. Let us lend our efforts to the preservation of mental hygiene as of physical hygiene, keeping it free from fads, cults, and the dangers of enthusiasm. Let us lend our support to sane, conservative, mental-hygiene movements.

A STATE PROGRAM OF MENTAL HYGIENE*†

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DANVILLE, PA.

A question that I am firmly convinced is of major importance to the State of Pennsylvania as an organized social group is the development of an adequate State-wide program of mental hygiene.

In approaching this problem it may be well at the outset to have some definite understanding as to just what mental hygiene comprehends and what it seeks to accomplish. It is not a mysterious cult, nor is it a new fad destined to occupy the attention of a group of enthusiasts for today and to sink into oblivion tomorrow. Mental hygiene represents a very serious attempt systematically to disseminate knowledge of certain laws, facts, and principles which practically applied to individual members of the community, will result in the living of more efficiently adjusted lives, lessen the incidence of mental disease and mental defect, and insure for this and coming generations a high type of community, state, and national life.

We hear much today concerning civic pride, and we are prone to measure it by the type of buildings, streets, and roads, varieties of industries, etc., often failing to realize that these physical structures are but the outward manifestations of the type of individuals making up the community in which they exist. Furthermore, it must be remembered that the civilization of the future, like that of the past, will of necessity depend absolutely upon the physical, intellectual, and moral fitness of our individual citizens. Hence mental hygiene becomes the corner stone of the great social structure of tomorrow, and the development of a program whereby its principles may be practically applied is of importance not only to the state but to the nation.

A state program of mental hygiene, to be effective, demands three things: (1) Adequate institutional facilities for the segregation, study, and scientific treatment of the mentally ill, mentally defective, and criminal classes. (2) Provision in the various communities throughout the state for the clinical examination of individuals experiencing difficulties in the matter of social adjustment, especially those who are problems in the home, the school, or the community at large, together with the development of measures that will tend to correct their handicaps and aid them in effecting a satisfactory environmental adjustment. (3) Persistent, intensive, systematic education of the various organized social groups whereby the community may come to know authoritatively the causes of social inadequacy and the agencies at its disposal for prevention and treatment.

While the keynote of a mental-hygiene program is one hundred per cent prevention, it must ever be borne in mind that prevention implies the segregation of the socially unfit and the scien-

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* Read before the Pennsylvania Conference of Social Welfare, Philadelphia.

† From the Danville State Hospital, Danville, Pa.

tific treatment of acute mental disorders, thus limiting the propagation of the feeble-minded, checking criminality, and diminishing the number of chronic mental patients who year after year have been increasing and who represent not alone a huge economic loss as the result of withdrawal from productive labor but an added burden to the taxpayers.

It, therefore, becomes absolutely essential to the development of a mental-hygiene program that hospitals shall be provided which are equipped with every agency known to medical science for research and treatment, with sufficient bed capacity to permit the proper classification of patients, and with proper housing conditions for the high type of physicians and nurses that the character of this important work demands.

At the present time the State of Pennsylvania is not fully equipped in this respect. Our mental hospitals and institutions for the feeble-minded are overcrowded; many of the physicians and nurses are living under conditions that are definite handicaps to successful hospital administration. We have no psychopathic hospitals set aside for the study and treatment of early cases of mental disorder. No special provision has been made for the epileptic patient. The mentally defective and psychopathic delinquent cannot be segregated, save during the period of prison sentence; and until the time comes when provision is made whereby he may be treated for what he is rather than for what he has done, much of the so-called "crime wave" will continue as the result of his depredations.

The early expansion, therefore, of Pennsylvania State-owned Hospitals is a subject of great moment, and it is to be hoped that it will be made possible in the very near future by the issuance of bonds to the amount of $50,000,000 for this purpose.

In developing the second feature of a mental-hygiene program, namely, provision for the examination in the community of the maladjusted individual, the mental clinic holds first place. In the large community centers, such as Pittsburgh and Philadelphia, such clinics may develop a high degree of specialization, and function as preschool clinics, habit clinics, child-guidance clinics, etc., but in general such clinics should be established under the direction of the State Bureau of Mental Health, and should function under the immediate supervision of the individual State hospital as a part of its community-service activities, each clinic representing a unit of the hospital in its respective community.

Such a clinic should not function as an open door to a hospital for mental diseases, or to institutions for the mentally defective and epileptic; and while it should ever be borne in mind that early hospitalization may be indicated in certain cases, especially where environmental conditions are such as to render extramural treatment inadequate, its major function should be the examination and recommendation for treatment in the community of those individuals whose mental conflicts have rendered them problems. To this end it should serve as a consultation center for parents, teachers, physicians, courts, social agencies, patients on furlough after hospitalization, and individuals who voluntarily apply for advice on matters pertaining to mental health. Nor does the function of the mental clinic end with its diagnostic and advisory relation to the individual patient; it also represents an educational center from which will radiate helpful information that will encourage upon the part of the community a better understanding of the mental patient and bring about a more efficient coöperation in the matter of his treatment and care, as well as point the way to the means that may be employed in the prevention and early treatment of abnormal mental functioning.

The organization of a mental clinic in the field requires the combined efforts of the hospital and the particular community in which it is located, the community providing the quarters, social workers, and clerical help, while the hospital provides an expert neuropsychiatrist as the directing and supervising head.

At the present time fifty-one such clinics are in operation, and the number of these should be increased until such a clinic is within easy access of every community in the State. In this connection, it is the belief of the writer that every child in our public schools should receive the same attention in the matter of mental examination that he now receives along the line of physical inspection. To this end there should be included in the personnel of the State Department of Public Instruction a neuropsychiatrist under whose direction such examinations may be carried out and school physicians and nurses instructed along lines of procedure in mental hygiene.

The third and perhaps the strongest and most enduring foundation stone upon which a constructive mental-hygiene program should be developed is that of public education. While, as previously stated, the mental clinic serves to some extent as an agency for public instruction, an adequate program of public education implies a much larger scope of activity. It comprehends a continuous systematic presentation to the various groups representing organized society, not of sensational lectures and publications in which

the predominant feature of discussion is *sex*, but rather of authentic and generally accepted information as to the normal mental mechanisms, the nature of the reaction of these mechanisms to specific hereditary, environmental and physical stimuli with resultant mental disease or mental defect, and the relation of these conditions to antisocial behavior, together with the measures that may be employed for their prevention and cure.

In this phase of the work the mental hospital and the recently reorganized mental hygiene committee of the Public Charities Association of Pennsylvania, with its eastern, central, and western divisions composed of prominent neuropsychiatrists, each division containing within its jurisdiction one or more mental hospitals, may find a most fruitful field of endeavor.

This work must be approached in a systematic manner, and to this end the following organized groups of individuals must be reached: (1) In a broad way valuable information may be presented to society in general through addresses before the various fraternal, social, religious, civic, and other organizations, by radio broadcasting of mental-hygiene talks, and by mental-health bulletins published at regular intervals and systematically and discriminatingly distributed to the lay public. (2) Prospective members of the bar and clergy, by courses of instruction in our schools of law and theological seminaries. (3) Nurses, through lectures before the training schools in general hospitals, and clinical demonstration and practical experience in the mental hospital. (4) Social workers, through intensive instruction in the various schools of social work. (5) Physicians, through the medical colleges, state and county medical societies, and clinical instruction in the mental hospital and field clinics.

Last, and perhaps the most important of all, is that group primarily concerned in the physical, intellectual, and moral development of the future citizens of the state and nation. The home and school are the bulwarks of our civilization; hence the parents and teachers should be the great pivot around which a constructive program of education should revolve. The parents and teachers of today may be reached through parent-teacher associations, teachers' institutes and conventions, mothers' meetings, the mental clinic, and personal home visitation by well-trained social workers and school nurses; and the parents and teachers of tomorrow by well-planned courses of instruction and clinical demonstration before the student bodies of our universities, colleges, and normal schools. No mental-hygiene program can be complete until such instruction is available in every such institution throughout the length and breadth of the State.

Such, in brief, is our conception of a constructive and adequate state program of mental hygiene. It now remains to consider such a program from the standpoint of practical application.

I know of no better way to answer the question, "Is such a program immediately practicable?" than to outline very briefly the work accomplished in twelve counties in central Pennsylvania, a work that has stood the test of almost six years, and which was planned and inaugurated by Dr. J. Allen Jackson, superintendent of the Danville State Hospital.

In 1921 Dr. Jackson organized at the hospital a Department of Community Service having for its object the development of an extramural program of clinical and educational work, and on August 17th of the same year the activities of this department were formally inaugurated with the organization and opening of a mental-health clinic in the city of Williamsport.

Within six months requests began reaching the hospital for the development of this work in other communities, and one by one new clinics were established until at the present time ten are in operation. The value of these clinics has been apparent from the beginning of the work. The coöperation upon the part of the various communities has been of the highest type. Week after week the clinic rooms are crowded. Practically every agency standing for social and economic efficiency appears on our records as a source from which patients have been referred. Opportunity classes have been organized in public schools as a result of the work. Judges of the courts are requesting examination of juvenile delinquents and adult prisoners previous to trial. Teachers, school nurses, and parents are presenting their problem children for examination and advice, and physicians are referring patients and seeking aid in consultation in mental cases, while the supervision provided for patients furloughed from the hospital has resulted in effecting a satisfactory social adjustment in the majority of cases.

The second feature of this extramural program, public education, was likewise approached in an intensive and systematic manner, which comprehended reaching the various social groups to which reference has already been made.

The educational program for the physicians of the hospital district has consisted in the presentation before county medical societies of papers dealing with the commoner types of mental disease, their symptomatology, diagnosis, and treatment, together with clinics at the hospital

at stated intervals. For the clinics, prominent teachers of neurology and psychiatry have volunteered their services, and, assisted by the medical staff of the hospital, have presented in a practical way valuable information concerning the types of mental patients met day after day in the general practice of medicine.

In the State of Pennsylvania, the State Board of Registration for Nurses requires that applicants for examination shall have received a systematic course of instruction in psychology and nursing in mental diseases. At the present time seven training schools of general hospitals, as well as that of our own institution, are receiving such instruction, supplemented by clinical demonstration at the State Hospital.

The various civic bodies, parent-teacher associations, and teachers' institutes have been systematically approached through addresses presenting simple, practical truths concerning which no psychiatric school can disagree, and prepared in such a way as to be easily comprehended by the varied types of individuals making up these groups.

These groups together with the overseers of the poor, social workers, state and visiting nurses, etc., have likewise received information on matters pertaining to mental hygiene through the medium of a mental-health bulletin issued quarterly, with a circulation of 1,200.

For the student bodies of the universities, colleges, and normal schools, systematic courses of instruction were planned which include the presentation before the senior classes of these institutions of a series of six to eight lectures on abnormal psychology and mental hygiene. At the conclusion of these lectures the students attend an especially arranged clinic at the hospital which emphasizes in a most graphic manner the various types of mental disorders, their causes, and methods of prevention. At the same time an inspection of all the hospital services brings a new view as to the modern methods of scientific treatment of the mentally ill.

This work has been marked by reactions of a most favorable character. Beginning with a course of lectures at a near-by normal school, the value of the information imparted was quickly recognized, and this work promptly expanded until at the present time such courses of lectures are being delivered at both winter and summer sessions of the six normal schools, universities, and colleges in the hospital district. At the normal schools, attendance has been made compulsory at these lectures, and in two of the universities the course has been made a part of the curriculum with credits earned counting toward the degree. During the past year approximately 5,000 students and teachers have listened to these lectures and passed through the hospital for clinical instruction.

Already this program has been productive of far-reaching results. The students of five years ago are the teachers and parents of today, and week after week come letters from various parts of the State asking advice concerning mental-health problems, the teachers recognizing the problem children and referring them to the clinics for study and guidance.

It would seem therefore, that such a program is not only practical, but one that can be put in immediate operation throughout the entire State. When this has been done, Pennsylvania will stand without a peer in the matter of a constructive state program of mental hygiene.

PEARL SMALLPOX

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Pearl smallpox is an exceedingly light form of mild smallpox, but is just as infectious as a severe attack. It is rare, and is probably entirely overlooked when it does occur. In twenty years' experience with many cases of all degrees of smallpox I have seen only three cases of pearl smallpox, and they were all in Minnesota in 1912. This mild form of the disease I have never seen mentioned in print, and have heard it referred to but once. In 1902 Dr. Randolph Faries of Philadelphia told me he had seen a very few cases. He termed it "crystalline" smallpox. With full appreciation of the dangers of introducing new medical terms, I hesitate to change the name, but the adjective *pearl* is exact in its description. This form of smallpox is not an entity, neither is it the abortive form which terminates in small superficial crusts, nor is it the "fibris variolosa" of Sydenham. Descriptions of alastrim do not tally with it.

Pearl smallpox begins with the usual variolous prodromes in a mild degree—headache and pain in the back. The eruption occurs exclusively upon exposed surfaces, and has very few lesions. My three cases were first seen in the vesicular stage. They were in unvaccinated children, and occurred during an outbreak of mild smallpox. The rash appeared only as minute, pearly-white vesicles, which gradually subsided and disappeared by absorption. The vesicles were about one sixteenth of an inch in diameter, globular and tense, exactly resembling small pearls. They had no inflammatory areola at the base, they did not umbilicate, nor become yellowish and pus-

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tular, nor crust, nor leave any scar. Two of the patients (white brothers) had all the lesions on the forehead and forearms. The first patient seen had but three vesicles, one each over the clavicle, on the forearm, and below the knee. Lack of confirmation of the diagnosis resulted in failure definitely to recognize the disease, and the boy was permitted to visit a family living across the road. Nine days later two adults and a postschool child of the family developed typical discrete smallpox. These persons had never been vaccinated, and all had had chickenpox. It was definitely determined that it was impossible for these persons to have contracted their smallpox except from the boy with the three vesicles; they had the same onset, the boy was the only visitor, and two of the persons had not been away from their isolated home.

The difficulty of many physicians in recognizing mild smallpox is frequently noted by health authorities. There is too great a tendency to pronounce a developing case of varicella as variola and an equal error in regarding mild smallpox as chickenpox. The first crop of papules of chickenpox are declared to be smallpox, and the physician dislikes to revise his diagnosis which has been made public by a placard. A revision of the diagnosis upon a careful study of the case, with proper official support, will strengthen the doctor's local prestige rather than weaken it, as he fears. In case of doubt, the public deserves protection by vaccination of all contacts and complete quarantine until a definite diagnosis is established.

Diagnosis of Smallpox

The distinguishing features of smallpox are primarily the uniformity of the lesions; secondarily, their location. Smallpox and chickenpox always can be and should be differentiated upon these two points alone. May physicians be reminded that smallpox lesions develop all at the same time, with the exception of possibly one or two lesions at the edge of the scalp; the lesions are all papules, or all vesicles, or all pustules, or are all crusted over. Chickenpox lesions, even though few in number, will always show various stages of development at the same time. The lesions of smallpox are strictly uniform in size; chickenpox lesions on the same patient may vary from 1/32 to 1/4 inch in diameter. This diagnostic point is of great importance.

The location of the lesions is the second consideration. In smallpox the lesions occur principally upon the head, neck, forearms, and below the knees; in chickenpox, upon the body. Area for area, or by total number, the diagnosis is plain. A half dozen papules on the forehead and thirty vesicles, pustules, and crusts upon the body, especially if they vary in size, are chickenpox. A person can have either disease with only a half-dozen lesions, but they will answer to the above descriptions and indicate the diagnosis. Papules and pustules occur in the palms in either disease, and chickenpox can sometimes be discovered by the vesicles first appearing in the roof of the mouth.

The secondary signs are of minor importance, but may serve for confirmation. The shotty feel mentioned in the textbooks seems to be the principal sign remembered by physicians, but it has led to misunderstanding more often than has it been helpful. Chickenpox papules are hard and round, but the true shottiness is found only in the deep papules of malignant smallpox. and rarely in mild smallpox. Physicians would be safe in entirely ignoring the sign. The areola in smallpox is deep red and immediately surrounds the lesion; in chickenpox it is pink and very irregular in shape, often extending a half-inch away. Umbilication, to a degree, occurs in both diseases. Chickenpox vesicles close together may have an appearance of confluence. In mild smallpox the vesicle wall may be quite flabby and thin, resembling varicella. The history of a vaccination is important in the diagnosis.

The diagnosis of the two diseases, therefore, rests primarily upon the matter of crop formation and the uniformity in size of the lesions; secondarily, in their distribution upon exposed or covered areas.

IODIN IN THE TREATMENT OF GOITER; ITS USE AND ABUSE*†

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While Philadelphia is not a so-called "goiter belt" where endemic goiter prevails, there has been in the last two decades an extraordinary increase in the incidence of toxic goiter, so much so that at the University Hospital it has been found expedient to establish a thyroid clinic where such cases may receive the special care and study essential for their ultimate recovery. Careful observation of the patients passing through this clinic has led to certain conclusions regarding the indications for, limitations of, and dangers of iodin therapy. My remarks, therefore, will be limited to this phase of the problem.

The use of iodin in the treatment of goiter is by no means a new form of therapy. Many

*Read before the Lebanon County Medical Society.

†From the Thyroid Clinic of the University Hospital, Philadelphia, Pa.

centuries ago, the Chinese found that people with goiter were often benefited by eating seaweed, although it was not recognized that the active principle of the plant was iodin. The ancient Greeks likewise reported the use of seaweed and other iodin-containing plants as useful herbs in the treatment of goiter. It was not, however, until the beginning of the nineteenth century that the element iodin was isolated from these plants. At various times during the early 1800's it was used throughout European countries, particularly Switzerland and Germany, where endemic goiter is frequent, with varying results, until Kocher, that eminent authority on diseases of the thyroid gland, protested so vigorously against its use that it was entirely discarded for many years.

It was not until about fifteen years ago that Marine, in our own country, showed by sound experimentation that colloid goiter is a physiologic process which occurs in the normal thyroid gland when it is denied a sufficient intake of iodin and, furthermore, that this dietary deficiency can be supplied by the administration of small amounts of inorganic iodin. It is due to his work that we have now reached a firm basis in the prophylaxis of endemic goiter. Plummer, a few years ago, added immensely to our knowledge of the usefulness of iodin when he found that transient improvement could be produced by its use in exophthalmic goiter, and recommended that it be used in the preoperative preparation of exophthalmic patients.

It will be noted, in reviewing the history of iodin treatment, that we are confronted with a maze of contradictory evidence as to its value. The medical profession has passed through sporadic periods when the drug was lauded as a specific, alternating with periods when it was condemned as not only utterly useless, but often harmful. We are now passing through a transitional period, from which it is to be hoped that certain hard and fast rules will henceforth govern the use of the drug. It is very doubtful if the practitioner has ever been confronted with a more serious and intricate problem than that regarding the indications for and contraindications to the use of iodin in the treatment of goiter. The current literature is so vague and the evidence presented often so contradictory that it would seem the time has arrived when we, who are especially interested in the problem, should definitely place certain conclusions before you which we trust will aid in solving the problem.

Perhaps the best method of procedure is to consider the various forms of goiter and the indication for or contraindication to the use of iodin in each. For our purposes, we may roughly classify goiters as follows: (1) The physiologic goiter, which includes that of adolescence, pregnancy, and menstruation. (2) The endemic or colloid goiter. (3) The toxic goiter, which includes the exophthalmic goiter, and the toxic adenoma. (4) The long-standing, but nontoxic, adenomatous goiter.

In the treatment of adolescent goiter, that is, in the soft, smooth enlargement of the thyroid gland occurring usually in girls, but not infrequently also in boys, at about the time of puberty, with no other symptoms, we believe that iodin has a definite use. The swelling often subsides within a few weeks. It is not always successful, however, and the patient should be told very frankly that the treatment may be of no value. Then too, it is well known that many of these goiters disappear spontaneously at about the age of eighteen to twenty years, so it is very difficult to be certain that the drug has been responsible for the improvement, and absolutely impossible to compile statistics of the percentage of cures to be expected. There is no doubt, however, of the benefit observed in many cases, and as the treatment is not harmful, we do not hesitate to employ it.

The same statement will cover its use in the goiter which is occasionally seen during pregnancy and at the time of menstruation. The method of administration is important. It should be given in doses of not more than ten milligrams daily for a period of one month, alternating with a free interval of one month. The most convenient form of iodin is probably Lugol's solution, which should be given in doses of two minims twice daily. Should definite improvement fail to occur after three courses of treatment, which, alternating with an equal free period, covers six months, the treatment should be discontinued.

The relation of iodin to the second form of goiter, the endemic or colloid type, is extremely interesting. It has been definitely established that the development of this type in certain regions known as "goiter belts" is dependent upon a relative iodin deficiency in the soil and water of that particular community. It is in the preventive treatment of endemic goiter that iodin has given the most brilliant results. When properly administered, the incidence of goiter in the "goiter belts" has been materially diminished. In these localities the drug should be given to all children between the ages of six and twelve years. It can be conveniently prescribed in the form of one iodostarin tablet weekly, which contains 10 milligrams of iodin, or by giving 2 grams of sodium iodid (3 grains daily

for 10 days) twice yearly. It is needless to say that this should be done under the direction of a physician or public-health officer, and the most practical method is to give it routinely through the public schools.

The method of giving iodin in the form of iodized salt *to all members of the family* cannot be too strongly condemned. The actual amount received varies considerably with the individual, and, as will be pointed out later, the iodized-salt method exposes a certain group of patients to serious consequences. It is almost impossible to believe that one of our states demands that all salt sold must contain iodin.

In the treatment of a fully developed colloid goiter, iodin has not proved very successful. Frequently the goiter will decrease in size and disappear, but more often the drug will have no effect. In young individuals, it may be worthy of a trial in small quantities. It should not be given after the twenty-fifth year, because of certain dangers which will be discussed under the heading of the long-standing goiter.

This brings us to the toxic goiter, the exophthalmic goiter, and the toxic adenoma. What value has iodin here? In 1922, Plummer demonstrated that temporary improvement in exophthalmic goiter invariably followed the administration of iodin for a few days. During the past four years, the preoperative administration of iodin has become a routine procedure in all of the large goiter clinics, with satisfactory results. The natural sequence of Plummer's discovery was the generalized use of iodin as a form of medical treatment in exophthalmic cases. That it has proved an utter failure in this respect is well known. The temporary improvement gradually disappears, and the patient soon relapses until the initial degree of toxicity is reached, and even though the iodin is continued, he gradually becomes more and more toxic. We have failed to see a single case of exophthalmic goiter permanently improved by the use of iodin. We are forced to conclude, therefore, that the temporary improvement is an induced remission which serves its purpose by affording an opportune moment for surgical intervention.

Notwithstanding this fact, we seldom see a patient with exophthalmic goiter who has not had prolonged treatment with iodin. From our standpoint, the most distressing feature of this is that the transient improvement is obtained only on the first administration, so that the drug which a few years ago was such a valuable aid to the surgical management of these cases is now, at least temporarily, of little value. We have again been forced to adopt the multiple-stage method of operating on patients, who, had they been operated upon during the induced remission, would have withstood the complete operation at one stage. It is hoped, of course, that a better understanding of the usefulness of iodin in exophthalmic goiter will again make it available as a means of preoperative treatment. It is essential, therefore, that the practitioner should coöperate with the surgeon in this matter.

In the treatment of toxic adenoma the same remarks apply, although Plummer is still opposed to the use of iodin in this type of goiter, even as a preoperative procedure. Our own experience, however, has indicated that it is distinctly beneficial as a preoperative adjunct.

The most important form of goiter in relation to iodin is yet to be considered—the long-standing nontoxic adenoma. This is the nodular, irregular goiter seen in patients past the thirtieth year of life which has slowly developed over a period of many years. It has long been recognized that administration of iodin to these patients is very often distinctly harmful. The adenomatous tissue frequently is stimulated to activity in some manner, as yet unknown, and an increased production of the thyrotoxic product results. Unfortunately, withdrawal of the exciting factor, iodin, does not stop the process, the goiter then assuming in every respect the type of the toxic adenoma. It is evident, therefore, that iodin not only is of no value in the treatment of these long-standing goiters, but is often very harmful. Kocher recognized this fact when he entered his dictum against the use of the drug; Plummer recognized the danger when he specifically warned against its use in any form of adenomatous goiter. Frequent experimentation has failed to demonstrate any beneficial results.

Notwithstanding these facts, the incidence of induced hyperthyroidism from the administration of iodin to patients with long-standing nontoxic goiter has reached appalling figures. In our own clinic, more than fifty per cent of the toxic adenomas have been induced. A few of these have resulted from the use of iodized salt, many from self-medication, and a considerable proportion from prescriptions from their physician.

These, then, are the facts concerning iodin therapy, as we now understand it. There are undoubted benefits to be derived from it when properly used; there are certainly limitations to its usefulness; and there are quite definite contraindications to its routine application.

It should be borne in mind that iodin may induce hyperthyroidism in cases of quiescent adenomatous goiter.—Crile.

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Editorials

ACHIEVEMENTS AND AMBITIONS

This number opens the thirty-first volume of the Journal and the seventy-seventh year of the existence of the Medical Society of the State of Pennsylvania. The past year has been, without question, the most useful and most prosperous of the seventy-seven.

Pernicious legislation was blocked, and the newly appointed Healing Art Commission gives promise of a satisfactory solution of the problems which have been a disturbing factor in the recent past. The next two years it is hoped will see the menace of inadequately educated cults eliminated permanently.

The finances of the Society are in splendid shape. The Medical Defense Fund has reached proportions sufficient to take care of probable future needs, but the need of a greatly increased Benevolence Fund is being stressed. A Building Fund has been suggested that will eventually provide a headquarters building fitting for the dignity of our organization.

Membership has increased to 67 per cent of the physicians in Pennsylvania. As there are only about 1,100 homeopaths and 200 or 300 eclectics, this figure should be bettered during the present year. The circulation of the Journal has increased over five hundred in the past few years, and if the present efforts to consolidate with other state journals culminate in success, we could easily find ourselves the leading state medical journal from point of view of circulation. At present only New York exceeds our figure.

As is always the case, some of the committees have accomplished little, and others have done outstanding work. The September Journal presented the reports of officers and committees which summed up the year's activities. The November Journal will present the reaction of the House of Delegates to these reports. This number goes to press before the first meeting of the House convenes, so that we are able to publish only the President's Address out of all the transactions of the meeting.

The biggest development of the year has been the unfolding sense of responsibility on the part of the profession for the welfare of their fellow men. This is manifest in our efforts to increase the Benevolence Fund, in the expanding scope of the Committee on Promotion of Efficient Laws on Insanity (which will doubtless have become the Committee on Mental Hygiene before this editorial is read), in the proposed survey of the Commission on Cancer, in the efforts to bring about a rapprochement between the profession and laity through education of the people, and to establish on a firmer basis the health of the commonwealth.

The scientific achievements of the year have perhaps not been marked by any development so startling as the discovery of insulin, and yet there has gradually grown a better understanding of the microscopic structure and functions of the living organism that will in time lead to discoveries more startling and revolutionary than any which have yet been made. Greatest of all has been the unfolding of a new spirit of adventure, with the sense of great things just around the corner. All the world, so to speak, is on tiptoe with expectation.

Dare we be found wanting? Dare we fail to rise to the demand for health service? The people are looking to us as leaders. Dare we ignore this call?

The Journal looks confidently to a year of great developments in 1927-8. We aim to give better service than ever before and to make our publication indispensable to the medical profession in our territory. If we can catch and con-

vey to you a little of the vast store of idealism and inspiration with which the atmosphere is electric, we shall feel that we have fulfilled our function. Can we do it? It depends a great deal on you. Will you help?

WHY HOSPITALS RUN BEHIND

Under the above caption appears an editorial in the *Saturday Evening Post,* May 7th. We are so accustomed to reading articles of this kind in medical journals and hospital magazines that it is most refreshing to note an editorial on the subject in a lay publication.

The editorial was written to call attention to institutional needs on account of "the benign epidemic of drives for hospital funds which is now active in many states." In calling the matter to the attention of the public, the statement is made that the old-fashioned institution "has given place to a luxurious hotel operated in connection with a chain of laboratories which take the guesswork out of diagnosis and treatment." This very plainly places the responsibility of the laboratory service, and we often wonder if the laboratory is utilized to its fullest extent in this regard. We still contend that the art of medicine should be developed to the fullest, realizing at the same time that the laboratory is an inestimable ally, which must be accorded full recognition. But too often the physician depends upon the laboratory to *make* the diagnosis.

The article further states that the hospital of today is "able to give the poorest patient a quality of service which a decade ago the richest could not command." A number of years ago we heard a surgeon say in regard to hospital service, "the rich can buy anything a hospital can give, a bum receives the best of service free in the public wards, but what is needed are accommodations for the middle class, that great backbone of the American people." We noted with great pleasure, at the annual session of the American Hospital Association last year, that great stress was laid upon the necessity for catering in hospitals to the middle class.

Much is being done to establish community hospitals, and the needs therefor are too well-known to be repeated at this time. The article aptly states "a well-equipped community hospital is a utility just as indispensable as a water-works or an electric-light plant. Every day of the year and every hour of the day it must be prepared to give service to any man, woman, or child within its radius of activity, and give it instantly without stopping to figure potential profit and loss." We can not do better than stress these thoughts in the various communities to make their inhabitants appreciate their responsibility to hospital service, and further, "if every family made a small but regular annual contribution, losses and deficits would be wiped out at once. Local institutions could readily be put on a sound financial basis, with the important result that the high cost of sickness would be cut in two."

Reference is made to the necessity of reorganizing many boards of trustees and managers. No doubt in many instances this is true. This suggestion is provoked by the fact that "taking the country as a whole, only one hospital in four is operated as competently and efficiently as it might be." Much waste is due to laxity in the purchase and control of supplies. Too much of the deficit can be traced to unenlightened management. In order to reduce to a minimum the hospital overhead, sane and sound principles of management must prevail. We should like to emphasize the closing paragraph of the article as follows:

> The magnificent achievements of the medical profession in advancing the healing art are far more notable than the betterment of executive management. It remains for industrial leaders and men of affairs to devise and introduce administrative and financial features which shall be as effective as current professional methods. When chambers of commerce, Rotary and Kiwanis Clubs, and retail-business-men's associations all join hands and give their best thought to the problems of their community hospitals, those problems are bound to be solved rationally and correctly. There are few perfectly operated hospitals which do not owe their excellence to a group of successful men who know how to apply business methods to the conduct of any organization in whose management they share.

THE PROMISCUOUS SALE OF HYPNOTICS

Under this caption a paper was read by Dr. John R. Minehart before the Pennsylvania Pharmaceutical Association at its recent annual session. The paper appears in this number of the Journal and should be read by all of our members.

A very important problem before the medical profession, and one in which the pharmacist is very much interested, is the question involving the ease with which the laity may obtain hypnotic drugs. Not infrequently the physician is responsible, because (1) instead of writing a prescription, he will advise the patient to go to the drug store and ask for a half dozen tablets of this or that, mentioning the drug he has in mind. The layman naturally will continue this practice without further advice from the physician, and very often will pass it on to his friends. (2) In writing a prescription, instead of using the chemical name, the physician is very apt to use

the most frequently known popular name for it. Patients often read their prescriptions, and a percentage are sufficiently intelligent quickly to grasp the situation, and in the future go to the druggist and ask for the hypnotic that has been prescribed. (3) The physician should specify that all prescriptions for hypnotics should not be renewed without his consent, although it is true that some druggists will ignore this request.

The better class of druggists will not sell hypnotics over the counter without a prescription, and sense the need for legislation that will satisfactorily limit to a minimum the ease with which the layman can secure hypnotic drugs. So much so that their national association is looking forward to securing Federal legislation to this end. The medical profession should have been the leaders in this regard. We should lend every assistance to this effort, and with the combined energies of the medical, pharmaceutical, dental, and veterinary professions there should be no difficulty in obtaining it.

NOTES ON INFANT FEEDING

An article under this title by Blackfan and Johnston which appeared in the *Boston Medical and Surgical Journal* for March 10, 1927, is a contribution on the value of acidified milk in infant feeding, with indications for and contraindications to its use. The former seem to outweigh the latter, which it is believed has been the experience of most, if not all, of those who have given acidified milk a fair and thorough trial.

Casual reference is made to the theory that acidified milk may have some relation to the emptying time of the stomach, and also some influence on vomiting, although the vomiting was not lessened in three cases of pylorospasm treated by the authors. This, however, has not been our experience in cases of pylorospasm, although we have found it to be true in pyloric stenosis, in which a small amount of food passes through the pylorus all the time but never all of it at any time. In such cases it is not to be expected that much, if any, benefit could come from dietary treatment, as the pathologic condition of the pylorus can be relieved only by surgery. In cases of pylorospasm, on the other hand, where the derangement may be largely functional and but the local manifestation of a constitutional condition (as, for example, spasmophilia or tetany), diet not only plays an important part but frequently is curative. It is in cases such as this that acidified milk has seemed to be of marked benefit.

One explanation advanced to account for cases of rickets and tetany where everything possible (diet, cod-liver oil, climate, exposure to the sun's rays and to the mercury quartz lamp, etc.) has been done to prevent either of these affections is that there is a deficiency in the absorption of calcium and phosphorus from the intestines, due in part to diminished gastric acidity and increased gastric retention, the latter seeming to be largely dependent upon the former. In such cases, where acidified milk has been used and the gastric acidity raised to normal, the gastric motility becomes normal, the gastric retention disappears, and the absorption of calcium and phosphorus from the intestines is promptly increased, as shown by a rise in the percentage of these ingredients in the blood.

In view of the foregoing, one cannot but agree with the authors in the statement that "acidified milk should be used as a *therapeutic food,* and not be adopted as a routine in the feeding of normal babies."

NEURASTHENIA

One of the most abused terms in medical nomenclature is "neurasthenia." Whenever the physician is unable to find a definite physical cause for the patient's symptoms, he makes a diagnosis of "neurasthenia." When the patient thinks she is sick, and deluges the longsuffering doctor with her baseless complaints, he applies to her the term of utmost opprobrium—"neurasthenia." When the tired business man overworks and loses his grip, his trouble is classed as "neurasthenia." When a woman's husband gets drunk and abuses her, and she puts up with conditions until they become so unbearable she collapses—she has "neurasthenia." In other words, whenever the complaint is too elusive to be analyzed by ordinary methods, it is tagged as "neurasthenia," and the patient is shifted on as soon as possible.

Undoubtedly this tendency to belittle this outcast affection which so frequently arises from emotional disturbance is the main reason why quactitioners flourish like the green bay tree. The poor "neurasthenic" runs around from one doctor to another, receiving no satisfaction and scant sympathy, until the quactitioner is reached. He is always willing to sell sympathy for a consideration. It is balm to the weary spirit of our "neurasthenic," and lo! a convert is made to the cult.

This editorial is a plea to call a spade a spade. True neurasthenia is no more a disgrace than a defective heart. Nerve weakness may be congenital, may be due to an infection which has

damaged the nerve tissues, may be the result of long overstrain. It is as real a disease and as truly requires limitation of effort and removal of strain as heart disease. Why, then, should it be saddled with such an evil reputation, and counted synonymous with an unwholesome imagination and a bad disposition?

Why not diagnose chronic fatigue when examination indicates that this is the sole trouble? Why not recognize the difficult conditions that produce chronic unhappiness and a "repression complex"? Is it not as much the function of the physician to help the patient face the facts and straighten out the tangle that produces the symptoms as it is to operate upon a diseased organ? Is it not as much his office to treat a distressed mind as an unhealthy body? If not, should he not at least make the correct diagnosis, and refer the patient to one whose business it is to treat his mind, rather than put him off with a placebo, or tell him there is nothing the matter?

Disordered function, long continued, may lead to organic defect, so it is only in line with modern methods of prevention to give careful consideration to affections that have their basis in emotional and mental disturbances. The patient as a whole is more important than any part of him.

There is always a cause for "neurasthenia." Is it not the physician's job to find it? Why, then, not confine this term to its proper usage, and not overwork it by applying it to conditions for which true nerve weakness is not responsible?

DANGERS IN THE INDISCRIMINATE USE OF BROMIDS

Various neurotic conditions which are the natural result of the tense life of the American people bring to the physician's office an increasing number of patients requiring a modification of their daily régime. In such cases, no treatment is more common than the promiscuous prescribing of bromid.

According to interesting observations reported by Dr. Otto Wuth ("Rational Bromid Treatment: New Methods for its Control." *J. A. M. A.*, Vol 88, No. 26, p. 2013, June 25, 1927) this often results in producing the very conditions which are supposed to be relieved. The intelligent prescribing of sodium bromid must always take into consideration its relationship to the sodium-chlorid content of the blood. The former will replace the latter halogen, and when a reduction to 40 per cent of the normal content ensues, death results, while symptoms of intoxication are said to appear when 25 per cent of the total halogens in the urine consist of bromid. When the system is surcharged with this drug, susceptible individuals may suffer from serious mental derangement and troublesome skin eruptions. The latter will disappear rapidly by discontinuing the administration of bromid and replacing it with salt, either intravenously or by mouth. The smaller the daily intake of sodium chlorid, the sooner will an individual suffer from a saturation of sodium bromid. Either one of these substances will cause the elimination of the other, and when equal amounts are taken, symptoms of bromid intoxication are said to occur in about three weeks. The excretion of bromid starts rapidly but proceeds slowly, so that the drug may be found in the urine three weeks after administration is stopped.

Since sodium chlorid is one of the most important elements in the fluid nourishing the cells of the body, serious functional and organic disturbance will ensue when too much is excreted or replaced by bromid. Individual susceptibility to such disturbance varies. The symptoms that occur most frequently are drowsiness, restlessness, disorientation, misinterpretation, visual hallucinations, delusions, tremor of tongue, slurred speech, ataxia, reeling gait, and various skin eruptions.

The article referred to above describes the laboratory technic for the study of the blood-serum and urine content of sodium chlorid and bromid. It is clearly shown that there is much danger of doing harm by the promiscuous giving of bromids to psychotic and neurotic individuals unless there is a laboratory check-up of the sodium-chlorid content of the blood. From various observations reported, it would seem that more harm than good has thus been done to many an epileptic, neurotic, and psychopathic patient.

THE IMPORTANCE OF THE PHARYNGEAL REFLEX IN THE PRODUCTION OF COUGH

During the winter season there is perhaps no one symptom that induces patients to consult a physician more frequently than a cough, and there is perhaps no more careless prescribing done by some physicians than for the relief of this symptom. Frequently a diagnosis of bronchitis is made when a careful examination, using modern methods, would have shown that this disease was not present. Patients are frequently seen who give the history of a troublesome cough for six weeks or longer, and who have taken much nauseating cough medicine

without relief. Often a careful examination proves that there is no evidence of bronchitis, nor even of laryngitis, but that there is a pharyngitis, perhaps, and sometimes even involvement of the upper respiratory tract requiring local treatment, to which the cough yields promptly.

The crux of the situation is *no examination, only treatment,* and no appreciation of the importance of the pharyngeal reflex in the production of cough. Every patient with a cough deserves a careful examination of the whole respiratory tract, from the paranasal sinuses down to the lungs, including the diaphragm and the organs adjacent to its under surface. Just as soon as all physicians will examine their patients properly before prescribing, the symptom of cough, as well as other symptoms, will not be misinterpreted, and patients will receive intelligent treatment.

NEWSPAPER MEDICINE

To most doctors the term "newspaper medicine" is synonymous with inaccuracy. It is a term of opprobrium and more or less of contempt. As one member of the profession said, "I don't believe *anything* medical I see in the newspapers—and very little else."

This attitude is very unfair to a sincere body of men and women who are striving to give the public the correct news of events that concern them, and who are working against difficulties unappreciated by readers of the daily papers. In the first place there is the element of time. The paper must go to press every day at a prescribed hour. To gather the news, write the copy, set it, proof-read it, make up the paper, print it, and have it on the streets, and all within the space of twenty-four hours, is an achievement comparable to the organization of an army.

In the second place, there is a surprising lack of coöperation amounting almost to antagonism towards the news reporters. It is only natural for people to want to keep their family skeletons out of print; but when they have good news, a constructive message, information of vital interest to the general public, it is difficult to understand why they will throw every conceivable difficulty in the way of entirely proper publicity.

The medical profession as a whole, and as individuals, are guilty of this attitude. Their hatred of "advertising" is so ingrained as to stand in the way of presenting facts to the public that it is agreed the people need and should have. They refuse to give representatives of the press first-hand information about their discoveries, their theories, their methods, their achievements, force the newspapers to obtain facts second or third hand, or to dig them out of some ultrascientific communication understandable only by the technically trained; they stand aloof and supposedly superior—and then criticize because the papers are inaccurate.

Doesn't the physician realize that he has the main responsibility for seeing that medical facts are properly reported to the laity? Such facts *will* be published; the people *will* have health news; and if they cannot get the truth, they will invent their own fables or superstitions. The newspapers are the widest-read medium of communication, and they are the logical medium for the training of the people in correct methods of thinking along medical lines.

Every scientist who prepares a scientific report of special interest to the general public should at the same time prepare a "lay edition" to be given to the press representatives. Only in this way can the truth, the whole truth, and nothing but the truth be expected to appear in the newspapers. The time is too limited, the range of knowledge that must be covered is too vast, and medicine too technical for the average reporter to be expected to obtain his facts by indirect methods or to digest them properly when they have been obtained.

The criticism of "newspaper medicine" is a criticism of the medical profession itself which has failed to assist and supervise this great medium of public education. We need to change our attitude in the matter. We *must* face the harm that may follow publication of untruths, and realize that we *only* are fitted to supply medical copy for lay consumption. If we fail to do this, we ourselves are responsible for the inaccuracies of "newspaper medicine."

JOTS AND TITTLES

Gastro-intestinal Infections

It is hard to convince some of the folk who have been accustomed to thinking of "colds" as due to exposure that they are really due to infection plus a lowering of bodily resistance. Equally, there are just as many who will insist that gastro-intestinal upsets, especially during the summer months, are due to the heat—and unfortunately, among these people there are a good many doctors. There are those who scoff at the idea of "intestinal grip" or "intestinal flu." While this may indeed be a misnomer, the fact remains that there has been endemic for the last several years a form of gastro-intestinal upset for which there can be no other explanation than infection.

This is well illustrated by an outbreak in a camp in New York State described in *Health News.* Out of 110 persons in the camp, 61 were affected with one or mor of the following symptoms: nausea, vomiting, abdominal cramps, diarrhea, and a temperature of 102° or more. Investigation showed that one of the older

girls from a group who were permitted to receive supplies from outside had assisted in washing dishes and in serving supper at the main camp. This girl had had a rather severe attack of diarrhea at the same time, and it was conclusively shown, by elimination of all other possible causes, that she was responsible for the spread of the infection. Other cases have come to our attention—for instance, a cook who went home ill with a gastro-intestinal upset, and the next day members of the family for whom she had been cooking were affectedly similarly.

Physicians should stress to their patients that such attacks are infectious, and that those who are ill should in no case have anything to do with preparation of food. When this idea is thoroughly assimilated by the lay people, and every one has been taught to "muzzle that sneeze," two large causes of disability will have been overcome. We pay too little attention to the minor infections. They seem unimportant enough; but we should bear in mind that they may predispose to more dangerous diseases, and they are the cause of more lost hours of work than many of the major disabilities.

Committee on the Cost of Medical Care

A bulletin recently issued by the Conference on Economic Factors Affecting the Organization of Medicine outlines the purposes of its new Committee on the Cost of Medical Care, organized last May in Washington, D. C. The Committee is to serve five years, and will conduct an analysis of the problems of medical organization, plan a series of researches which are to be assigned to various interested agencies and possibly subsidized, conduct a limited number of researches, and arouse the interest of professional groups and the public in facts regarding medical services, particularly in the results of the Committee's studies. An annual budget of $40,000 has been adopted, of which $10,000 has been granted by the Twentieth Century Fund, and $15,000 by the Milbank Memorial Fund. The following executive committee has been appointed, with power to increase its number to seven or nine members: C. E. A. Winslow, Chairman, Michael M. Davis, Haven Emerson, J. Shelton Horsley.

Needed—A Medical Guidance Bureau

Dr. Donald B. Armstrong, of the Metropolitan Life Insurance Company, has proposed a good thing in an address before the Michigan Conference of Social Work. Thousands of letters received by insurance companies and other national agencies from people all over the country seeking health advice and medical guidance, Dr. Armstrong says, have made it clear that the public wants protection against quackery and fraud. "Many who write for advice suspect that the advertised cures are fakes, but do not know where to turn for safe and sound medical advice and treatment." He says that the medical profession itself is in part responsible for the growth of quackery and of antimedical cults in the United States because the doctor has been primarily trained to treat the sick and has hitherto not been very much interested in well people. Consequently an increasing number of people who are seeking health advice from physicians are going away from the doctor's office disappointed because "the doctor is not yet prepared to give the kind of service that is being sought. Many doctors, instead of giving a thorough medical examination, for which most people are prepared to pay a reasonable fee, are inclined to slap the patient on the back, tell him he is O.K., and not to worry. That's 'old stuff' and won't go much longer. It's another reason why many of these people turn to so-called medical institutes run on a fake advertising basis."

Furthermore, there exists at the present time practically no machinery in local communities for giving medical guidance to those in need of it. The health department and social agencies can help some of these people, but many of them need a reliable physician and do not know how to tell the fake from the regular. Dr. Armstrong expressed the belief that to meet these needs there must be established in most communities a Medical Guidance Bureau where its citizens can secure the help needed. If such a bureau were to be run under unprejudiced medical auspices, with the coöperation of the Health Department and social agencies, and were to be properly advertised in the community, it would perform a most valuable service. It would combat the development of quack medicine; it would direct individuals to sound medical service; it would stimulate doctors to meet the demands for health advice on the part of the people; it would increase the work of the medical profession; and would open up to the profession the great and growing field of private practice of preventive medicine.

To all of this the writer wants to add a fervent "Amen." If I may be permitted for once to speak from personal experience—Not long since, I was passing through Chicago, and found myself greatly in need of a competent throat specialist. Several names were readily secured by telephone from the American Medical Association. But suppose I had not known of this means of locating a reliable physician? Could the railroad information bureau have advised me? Could the ticket office have been of service? Is this one of the functions of the Travelers' Aid? Perhaps some of the porters might have helped me out, or the Police Department! But what reliable advice is the average traveler, totally ignorant of the medical profession in a strange city, able to obtain? The answer is—absolutely none at all. His usual method is to go wandering on the street, and turn in at the first "shingle" he sees.

Another point is that even the American Medical Association was not prepared to render such service to the average traveler. My request seemed to be rather unusual. I do not know why it should have been, because such requests are frequently received at the headquarters office of the State Society. We have even been asked to suggest specialists in other cities.

Unfortunately we, too, are not prepared to do this properly. We have no list of specialists available, and unless we can locate a name almost at random in the American Medical Directory, or unless we happen to have a personal knowledge of some one who specializes in the line desired, we are unable to give adequate advice to our inquirer, and this advice can scarcely be said to be impartial, at that—for our acquaintance, to our regret, is somewhat limited.

From our personal and organization experience, then, we endorse whole-heartedly Dr. Armstrong's suggestion to establish medical guidance bureaus. And who is better fitted to establish them than the State and county medical societies, working in conjunction?

Physiotherapy at the Exhibits

Did you notice the preponderance of physiotherapy apparatus at the exhibit? It was significant of one of the trends of the times, and of interest is it that 1927 was only the fourth meeting at which this development has been marked. In spite of the appointment by the American Medical Association of the Council on Physical Therapy, and in spite of notable results achieved

by its judicious use, there are still those who condemn it as "one of those quack things." As a matter of fact, it is one of the good things we have been leaving to the cults. Why? Let us have a care that conservatism does not merge into inertia.

Lincoln's Standard Applied to Public Health

The following definition by Abraham Lincoln, applied to the discussion on proper limits of public-health work, will supply a definite and satisfactory standard of judgment as to this function of the Government:

> The legitimate object of government is to do for a people whatever they need to have done, but cannot do at all, or cannot so well do for themselves in their separate and individual capacities. In all that the people can individually do as well for themselves, government ought not to interfere.
>
> The desirable things which individuals cannot do fall into two classes: Those which have relation to wrongs and those which have not. Each of these branches off into an infinite variety of subdivisions. The first—in relation to wrong—embraces all crimes, misdemeanors and nonperformance of contracts. The other embraces all which in its nature and without wrong, requires concerted action, as public roads and highways, public schools, charities, pauperism, orphanages, estates of the deceased, and the machinery of the government itself.

Whenever, therefore, the health of the people cannot be properly safeguarded by individual effort, it is fitting and proper that the government shall intervene.

"How to Live Longer"

An attractive little book under this title, by John Clarence Funk, M.A., LL.B., Sc.D., director of the Bureau of Public Health Education of the Pennsylvania Department of Health, has recently been published. Dr. Funk covers in a whimsical and pungent style many of the things that lay folk need to know to keep healthy. The drawings are sprightly, and the rhymes of the Health Gnome will be especially good for the children.

MEDICOLEGAL NOTES

The Oklahoma Supreme Court holds that an employer is entitled to select the physician and hospital to treat an injured employee when he is responsible for payment of costs. If the employee refuses to accept the services tendered by the employer and selects his own physician and hospital accommodations, he cannot hold his employer responsible for the costs. A person employed as telephone operator has no authority as agent for the employer to select physician or hospital for an injured fellow employee.

The New York Appellate Division holds that the employer is not liable for costs where the employee was treated by his own physician and made no request to the employer for medical service, even though the employer was informed of the injury.

The Oklahoma Supreme Court holds that lead poisoning and painter's colic is not an accident but an occupational disease excluded by the Compensation Act as a basis of compensation.

The Texas Court of Civil Appeals holds that the death of a press feeder, working in an underground basement, caused by heat prostration was compensable as an accident and injury under the Texas Employers' Liability Act.

The New York Appellate Division holds that tuberculosis resulting from working in a damp, insanitary, unventilated room is not an accidental injury within the law. Since the plaintiff was aware that the conditions under which she worked were deleterious to health, it was held that she assumed the risk by remaining in the employment, and could not recover.

The Indiana Appellate Court holds that the death of a workman as a result of concussion of the brain and the spinal cord following a fall from his wagon, even though he had calcified arteriosclerosis of the coronary arteries, was evidently caused by the work he was doing (assisting in lifting a heavy wagon, shaking the doors of the lock chute, manipulating the brakes, and managing his team) which hastened the loosening of the calcareous deposit, and thus precipitated his death.

The Pennsylvania Supreme Court holds that an insured is bound honestly to disclose facts concerning his physical condition of which he knows, but he is not charged with knowledge of the existence of a latent disease of which he could have no exact information.—From the *Medical Journal and Record.*

In an opinion by Judge Cunningham of the Superior Court it is held that a statement by a physician that an injury absolutely caused or contributed to death, even though there is conflicting testimony, is sufficient evidence to warrant the granting of Workmen's Compensation.

Failure of an injured employee to report an accident to his employer within fourteen days, as specified in the Workmen's Compensation Act, should not debar him from compensation when he gives as the reason for such neglect that he believed simple remedies could relieve his condition is the decision of the Common Pleas Court in the case of John Boglan *v.* P. & R. Coal and Iron Company. It is pointed out that the section of the Act covering the time for notifying the employer of the accident merely sets a time for making the report, and that failure to report within this statutory period is not a complete bar to compensation. Furthermore, the record as presented did not support a conclusion that treatment at the end of the fourteen-day period would have resulted in a material difference.—From *Pennsylvania Progress.*

Legal Knowledge Essential for Sanitarians.—*The American Journal of Public Health* advises sanitarians to familiarize themselves with some of the general legal doctrines which are especially applicable to their chosen field of endeavor so that unnecessary litigation may be prevented, or if not avoided, at least successfully defended. A knowledge of the written laws and an intelligent conception of their application is, of course, desirable, but statutes form only a fraction of the law as a whole. Legal principles are founded not only upon the written law, but upon the common law, made up to a considerable extent of the decisions of courts. The whole question of liability in public-health matters is seldom answered by written law, and the determination of responsibility or immunity for malfeasance, misfeasance, or nonfeasance must be adjudicated by the courts in accordance with principles based on precedents and the rules of common law. The same may be said of many other legal problems which arise in public-health work.

Cattle Quarantine Law Upheld.—In view of the recent defiance of Pennsylvania farmers who objected to tuberculin-testing of their cattle, a decision of the New York State Supreme Court is of interest. The New York law gives the Department of Farms and Markets power to enforce quarantine on any non-tuberculin-tested herd of cattle in a town where 90 per cent of the cattle have been tested. The defendant in the case quoted refused to have his herd tested,

whereupon a quarantine was imposed. After several months this was violated. The lower court ruling was adverse to the defendant, and on a question of constitutionality was referred to the Supreme Court, which decided that the statute "was in no way unreasonable or unwarranted exercise of the police power upon the part of the legislature of the State."—*Health News.*

Burden of Cost of Vaccination of School Children Under Michigan Statute.—The Michigan Supreme Court holds, Keho v. Board of Auditors of Bay County, 235 Michigan, 163, 209 N. W. 163, that although generally the legislative policy of the state has been to place the burden of epidemics of communicable diseases on counties, it is within the power of the Legislature to deviate from that policy and place the burden on cities and villages. In view of Mich. Comp. Laws 1915, §5055, as amended by §5096, placing the burden upon the municipality, the county was held not liable for the cost of vaccination of school children, teachers and janitors of a municipality within its limits during an emergency.—*Medical Journal and Record.*

The Hospital and Compensation Insurance.—Miss Louise Thiesson, of Rochester, N. Y., an employee of the Rochester General Hospital, infected her arm when cleaning some surgical instruments, resulting in paralysis and permanent disablement. She was refused compensation by the Workmen's Compensation Commission because, under the law, an institution not conducted for pecuniary gain is not required to carry compensation insurance. She has now brought suit against the institution for $25,000 damages before the Supreme Court, contending that the institution was negligent in not electing to carry compensation insurance on employees, even though not required by law to do so.

HOSPITAL ACTIVITIES

Salt in Sterilizers.—With reference to the effect of salt solutions on sterilizer walls, a well-known sterilizer manufacturer writes: "The chemical action of salt solutions coming in contact with the tin-coated copper surface of the chamber of any sterilizer, where these solutions are allowed to boil over and come in contact with the metal, the solutions will attack the metal and in time 'pit' it. At first the surface will show only the small depressions or 'pits,' but eventually, with this action going on, the sterilizer wall will be eaten through and small holes appear, until in a short time the sterilizer will be completely ruined. It is only when the solution boils over and comes in direct contact with the metal that this action takes place. The hospitals should be instructed to be careful about this, and not fill the flasks to be sterilized too full. I know of no other solutions used in the sterilizers which will in any way affect the material, other than the salt solutions."—*Hospital Management.*

Hospital Experiences With "Specials."—The following are some of the comments from nursing superintendents, developed by the Committee on the Grading of Nursing Schools. "Special nurses as a rule are extravagant as to linen and lights, careless as to care of equipment and appliances, and interfere with the morale of the hospital, whether graduates or students." "The general run in graduate help on floor duty may be said to be distinguished by the following characteristics: (1) No special interest—hours and salary only objective. (2) From lack of supervision uses a 'short-cut' method in taking care of her patients, and rather resents being asked not to throw linen on the floor, to change bath water frequently when giving a bed bath, etc., setting up trays properly, etc. (3) Frequent changes—transient."—*Hospital Management.*

Who Supplies Instruments?—A lively discussion followed the introduction at a recent hospital convention of the question as to whether the doctor or the hospital should supply instruments used in the operating room. No unanimity of opinion developed, as some pointed out that the doctor, held responsible for his work, should use instruments with which he is familiar. Another speaker told of the failure of physicians to agree on certain instruments when the hospital wanted to buy them, and still others told of a fund established by members of the staff to purchase certain common instruments for general use.—*Hospital Management.*

Are Opportunities for Fuller Saving Being Wasted?—In no city is there a close enough liaison between the sick man and the available hospital bed. There is no central referring agency to which people may apply for speedy relief, and the likelihood of early entrance into a hospital depends upon the chance of securing a physician who has entrée to neighboring hospitals or who is actually upon a staff where a bed is available. Once an ethical wide-awake physician is secured, he will usually persist until entrance to a hospital is gained for his patient, but here enters again the problem of fitting the finances and social standing of the patient to the available bed. Nothing is more exasperating than some attempts made to gain entrance by telephone into some of the best hospitals of our country. Some of our institutions have failed to systematize their methods of admission, so that really deserving patients are delayed in securing treatment, if not actually prevented from doing so. The chief resident physician often is the admitting officer and must pass on the medical acceptability of patients, but he is not always easy to locate immediately, and in the meantime the inquiring physician who is often waiting in a stuffy telephone booth is either repeatedly disconnected from the hospital, or endures what appears to him to be an interminably long wait in securing the information which he desires.

Thirty-three per cent of the beds in the hospitals of this country stood vacant every day in the year 1925. This represented a total of 275,000 beds, or if each bed cared for two patients a month, a total loss of hospital facilities representing care to over 600,000 persons. Can this often necessary vacancy of hospital beds be reduced? Patients could certainly be moved more rapidly if greater attention were paid to such details as immediately instituting treatment and making laboratory and x-ray studies as soon as they are indicated. A slip somewhere along the line of surgical technic produces an infection of the skin in what otherwise was a simple operation. Many days are lost which cost the hospital four or five dollars each, and many other days are lost for the patient, during which his income is nil. It is decided to discharge the patient on the morrow, but the intern forgets to fill out his card until the morning discharge hour is past, and then it is discovered that the patient's clothes have not been returned from home, and another day is lost to the hospital and the patient.

It is a waste of time and effort to endeavor to enforce a rule forbidding interns from inviting nurses to accompany them to social gatherings. Many hospi-

tals endeavor to enforce such a rule, but it seems much more reasonable and fair to these young people to permit interns to call at the nurses' home for student nurses, and in a perfectly open and above-board manner accompany them to the theater or to other entertainments.—*The Modern Hospital.*

PUBLIC HEALTH

Medical Inspection of Schools.—The current number of *Pennsylvania's Health* contains an interesting article by J. Bruce McCreary, M.D., director of the Bureau of Child Health of the State Health Department, discussing the new plans for school medical inspection which have been adopted for the coming biennium. The Department has felt that methods used in the past were not satisfactory, although an average of 53 to 57 per cent of corrections of physical defects have been attained in the first- and second-class districts, 35 per cent in the third-class districts, and approximately 31 per cent in the fourth-class, or purely rural districts. "Each year shows an improvement in the number of corrections made, largely because of the program of education in this respect that has been carried on by various organizations, such as the Parent-Teacher Association and others."

The present appropriation, while more liberal than heretofore, is still insufficient to do a complete and thorough State-wide annual inspection. The following plans, therefore, have been adopted for the first year: In first-class districts the Department will keep in close touch with the medical inspection, and coöperate fully in carrying out the intent of the legislative act establishing annual school medical inspection. In second- and third-class districts there will be careful consideration of all appointments of medical inspectors by local school authorities, insistence upon prompt monthly district reports to the Department, full supervision of both medical and sanitary inspections by one full-time and eight part-time medical supervisors, and an earnest effort to have the local authorities continue the immunization of all new entrants against diphtheria. In fourth-class districts a 100-per-cent inspection will be made in 27 of the least populous counties of the State, the number of inspectors having been reduced and their territories extended. In the 39 larger counties, 50 per cent of the schools will be inspected.

The medical inspection of children includes weighing and measuring and recording of cases of underweight for height (otherwise known as malnutrition); testing of vision and hearing; examination of teeth, tonsils, cervical glands, skin, and scalp; recording of deformities, nervous disorders, speech and mental defects; and an inspection for evidence of successful vaccination. It is frequently inexpedient for medical inspectors to expose the chest of a child for a complete examination of the lungs and heart; hence their inability to make an exact record of these defects, as it is impossible to reach a definite conclusion when the examination is made through the clothing.

Where defects are found and recorded, parents are notified from the central office in Harrisburg, and advised to take their children to the family physician. In none of the fourth-class school districts are the notices sent by the local school physician. A special effort will be made to follow up all defective children with personal visits by community or State nurses. Where parents cannot afford to employ physicians, civic organizations and hospitals receiving State aid will be requested to lend their assistance in securing corrections.

Sanitary inspections will include a careful survey of buildings, with emphasis upon ventilation, heating, lighting, adequate playgrounds, healthful surroundings and cleanliness, and proper, healthful toilet facilities. A program of laboratory examination of water supplies of rural schools is already under way. The compulsory vaccination law will be enforced to the letter in both public and private schools. School medical inspectors in third- and fourth-class districts are the only physicians authorized to issue temporary certificates for admission to school following two unsuccessful attempts to vaccinate a child.

By these methods it is believed that a 70 to 80 per cent correction of defects can be secured. The fullest coöperation is given by the school authorities, and it is hoped that parents and communities will lend their aid in this effort to do a big piece of work with inadequate funds. The Department has endeavored to secure the services of the best physicians in the communities, and, although it is able to offer a remuneration which barely covers their expenses, these physicians have undertaken the work because of their personal interest in the health of the children in their respective localities.

Public-Health Activities in Michigan.—A coöperative arrangement has been established between the Michigan State College Extension Division and the Michigan Department of Health for the examination of drinking waters in rural districts. The College is sending out two trucks equipped and manned to give instruction in domestic science and farm engineering. Sanitary surveys will be made wherever samples of water are collected for examination by the State Laboratory.

The State Department of Health and Department of Conservation are also coöperating in making a survey of the character of both ground and surface waters that are available for domestic supplies. The chemical and bacteriologic analysis of constituents will be made, and the radio-activity of the waters will be determined.

The County Health Coöperative Committee of Ionia County has taken as one of its fields of activity the collection of water samples from every school well in the county for examination by the State Department of Health laboratory.

College graduates who wish to learn procedures used in a public-health laboratory are accepted as volunteer workers by the Laboratory of the Michigan Health Department. Credit is granted toward a master's degree by the college in which the student is enrolled. This summer two graduates from the University of Montana and one from Albion College have registered.

Canning Industry Solving its Waste-Disposal Problem.—The prevention of stream pollution through the discharge into the streams of various industrial wastes has been a serious economic problem, but methods have not yet been developed for their disposal in a sanitary, economic, and satisfactory manner. Last summer a group of Ohio canners financed a series of waste-disposal experiments, dealing largely with wastes from plants canning corn, lima beans, and succotash. Supplementing this work, the New York Canners, Inc., are now experimenting along the same line, but dealing chiefly with wastes from peas, string beans, and tomatoes. A large experimental waste-disposal plant has been installed at Albion, N. Y., based upon the results of the experiments carried on in Ohio. State and national organizations of various industries having special wastes which create nuisances (canning, milk, leather, etc.) are now coöperating with state health de-

partments in studies of their special problems. A number of organizations are participating in the Albion experiments, and it is hoped that an efficient and economical method of treating cannery wastes will result.—*Health News.*

City Milk Contest.—The Auburn, N. Y., Department of Health is running a contest over a period of one year for the milk dealers of the city. Bacterial counts are made monthly, and the dealer obtaining the lowest count for the greatest number of months will be the winner of the contest, for which prizes are offered.

Increase in Syphilis.—The ninth annual report of the Division of Social Hygiene (New York State) shows that, based upon available information, during the past eight years the increase of syphilis in women was 56 per cent and in men only 46 per cent. While this probably is due partly to better statistical data, it is worthy of note that the increase in women has been consistently greater year by year than in men.—*Health News,* New York State Department of Health.

Epidemic of Sore Throat from Milk.—*Health News* tells us that in a large hotel at a popular summer resort, in seven cases of sore throat appearing within a week, cultures all showed hemolytic streptococci. Cultures were taken from throats of the milkers in the dairy which supplied milk to the hotel. Although none of these people had been troubled with a sore throat for several months, the culture from one of them showed hemolytic streptococci.

INDUSTRIAL MEDICINE

An Industrial Hygiene Study of the Health Hazard in a Large Manufacturing Plant.—The Bureau of Industrial Hygiene, New York State, made a study of a large manufacturing plant, at the request of the owners, to determine if any of the workers who were exposed to lead were absorbing it in dangerous quantities.

As a result of the request, a study was made which included the medical examination of the workers and their environment, together with certain chemical analyses. The workers were engaged in soldering. Physical examinations, including microscopic examination of the blood of each worker, were made in 202 cases. Samples of air and dust in the workrooms were subjected to chemical analyses. The report is based upon the results of the examination of 180 men. The average was 28.5 years, and 83.7 per cent consistently chewed tobacco. The opinion prevailed among the workers that the fumes were irritating to the respiratory system. The following symptoms were noted: cough in 15 cases; expectoration in 14; hemoptysis in 0; hoarseness in 5; fever in 7; and chills in 8. Of symptoms that could be due to irritation of the nervous system, in 34 there was pain in the muscles or about the joints. Digestion was classified as good in 160; fair in 12; and bad in 6. During working hours 35 had headache, and 24 vertigo. The mucous membranes of the mouth, lips, and pharynx were usually so congested that they were rated scarlet in 80 cases; normal in 96; and pale in 4. The congestion about the mouth, gums, and nasopharynx extended even into the nose. Blood microscopy showed stippling in 61; cases, anemia in 57, and polychromatophilia in 47.

The excuse given for tobacco chewing is that it is necessary because of the fumes and acid which are constantly producing a bad taste in the mouth. No doubt this could be displaced by gum chewing. During work, all workers wear gloves and apron. Many of the men say the teeth "go" as a result of working in the fumes. In only two cases was a lead line in the gums noted, one as actual, the other suspicious. The chronic inflammation of the buccal cavity, as well as the decayed condition of the teeth, is due to the fumes inhaled during the soldering process. The pulse rate averaged 85, no doubt due to tobacco, excessive heat, teeth, absorption of the toxins from the mouth, the constant standing position, and the rush and hurry of piece work, fatigue, and poor ventilation. The microscopic examination of the blood showed that 60 per cent of the workers were absorbing lead. The solder which these men used is composed of 60 per cent lead and 40 per cent tin, and must be heated to a liquid form in order to do its work. In addition, a flux is used. It seems certain that the vapors and fumes of the flux, from the soldering operations, bring about the pathologic changes noted.

It seems conclusive, then, that the "soldering" and "testing" workmen are absorbing lead, and that this lead originates in large part from the hand-soldering operation; that specific ventilation should be provided for the soldering operation which would remove danger of pollution of the inspired air; and that any ventilation scheme which merely provides for the removal of heat and fumes from the heating stove is not, in itself, adequate to guarantee the removal of all harmful substances from the inspired air.

What Can the Small Plant Do About Safety?—It is common talk in the safety world that the small plant constitutes the principal snag in carrying out a successful, nation-wide industrial accident-prevention program. Common talk, of course, is not always infallible, but in this particular case statistics indicate that the average small plant is woefully weak from a safety standpoint, cutting down the general average, often nullifying the notable records of the bigger organizations that are carrying out well-defined and well-managed plans for accident-prevention work. The principal reason for this situation seems to be managerial indifference. It is all too common to have the superintendent, manager, or president of the smaller organizations meet the safety proposition with answers of this sort: "Safety is all right for the big fellows" or, "We have no accidents to speak of." The objection which the more conscientious men make to organized safety work is: "We are too small; we can't afford it." Here, at least, is the germ of a valid argument, for the small-plant executive often considers his business financially unable to foot the safety bill. His terrific bogies are cost and overhead. Little does he realize that the small sum invested in safety work is bound to yield big returns—not only in decreased accident costs, but also in a more contented working force. The manager, or operating head, must be an enthusiastic safety worker himself; as the representative of the owners he must be able to demonstrate their interest by the vigor of his own safety measures.

Six things the small plant can do to reduce accidents are: (1) Provide adequate safety equipment wherever a worker is liable to be injured. (2) Train foremen to require safe methods in every operation. (3) Educate workers to use safety equipment, and rigidly require its use. (4) Keep permanent records of all accidents, and study dangerous operations and practices. (5) Organize an employees' safety committee, and back it up by executive interest and support. (6) Teach every new worker safe methods from the start.—*The Factory,* July, 1927.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade Building
Pittsburgh, Pa.

COUNCILOR DISTRICT MEETINGS

During 1927, councilor district meetings, arranged by the trustee and councilor for the district, were held in eight of the eleven districts comprising our Society. The attendance upon these meetings ranged from fifty-five to one hundred thirty-two (second councilor district). A composite of the programs would show a well-balanced group of subjects, scientific and economic in character, climaxed by a good dinner and other social features. We sincerely believe that the solidarity existing between any constituent state medical society and its component societies is well expressed in the number and character of the councilor district meetings held.

These meetings are arranged for and conducted without expense to the members in attendance, except for the social features; they are looked upon as a part of the service of the State Society to its members, and should grow in number, popularity, and effect.

THE YELLOW INSERT

Your copy of this month's ATLANTIC MEDICAL JOURNAL should contain a loose-leaf insert, yellow in color, which conveys to you the opportunity to contribute to the Medical Benevolence Fund of our Society, or to provide in your will for a legacy to the fund. The response to a similar insert issued in 1925 and again in 1926 was not encouraging, but we are repeating it this year with the hope that many members will respond. Contributions ranging in amount from $5 upward, payable at once or in instalments convenient to the donor, will be acknowledged by letter and also in the columns of the JOURNAL. Contributions to the fund last year approximated $1,600.

At the present time the income from the more than $40,000 in the fund is being expended to soften the blows of adversity which have fallen on five members of our Society. We feel sure that if our members were acquainted with the history of the various approved applicants for aid, who are at present receiving or have in the past received help from the Benevolence Fund, they would speedily by their contributions increase the fund to a point where the income therefrom might render more adequate assistance to a greater number of applicants.

Make proper use of the yellow insert in your copy of the JOURNAL today.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to September 13:

ALLEGHENY: *Removal*—Robert C. Kirkwood from Sudheimer, Mo., to Brete Harte Sanitarium, Calaveras County, California. *Deaths*—Lawrence J. Davis, Carnegie (Medico-Chi. Phila. '12), August 8, aged 41; Theodore J. Elterich, Pittsburgh (Univ. of Pgh. '89), July 26, aged 60; Charles M. Swindler, Pittsburgh (Univ. of Pgh. '11), August 12, aged 48.

BEAVER: *New Member*—Louis Weiss, Ambridge.

BRADFORD: *Deaths*—Grant H. Gustin, Troy (Jeff. Med. Coll. '92), August 1; Thomas B. Johnson, Jr., Towanda (Medico-Chi. Coll., Phila. '03), August 12, aged 48.

CAMBRIA: *Death*—Arthur H. McAnulty, Nanty Glo (Univ. of Pgh. '14), July 19, aged 42.

CLARION: *Removal*—Harry C. Blair from East Brady to Iselin (Indiana County).

CRAWFORD: *Death*—Sylvester F. Hazen, Hartstown (Univ. of Ill. '92), recently, aged 67.

ERIE: *Removal*—Anna M. Schrade from Erie to El Cajon, Calif., R. 2, Box 16.

FRANKLIN: *Death*—Samuel B. Thomas, Waynesboro (Jeff. Med. Coll. '11), August 5, aged 41.

LACKAWANNA: *Removal*—Mark J. Haley from Jermyn to 3 W. Granville Avenue, Margate, N. J. *Death*—John J. Sullivan, Sr., Scranton (Coll. Phys. and Surg., Baltimore '82), August 16.

Luzerne: *Death*—William H. Corrigan, Wilkes-Barre (Jeff. Med. Coll. '93), July 26, aged 63.

Northumberland: *Removal*—John G. Mengel from Trevorton to 408 Cumberland Street, Lebanon.

Philadelphia: *Removal*—William E. Masters from Philadelphia to Scio, Ohio. *Death*—Richard W. Deaver, Philadelphia (Univ. of Penna. '74), August 13, aged 79.

York: *New Member*—Joseph F. Calvert, 342 So. George St., York. *Death*—Austin M. Grove, York (Jeff. Med. Coll. '02), July 30, aged 46.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since August 17. Figures in the first column indicate county society numbers; second column, State Society numbers.

August	17	Fayette	124-125	7601-7602	$10.00
September	5	York	131	7603 (½ yr.)	2.50
	12	Beaver	87	7604	5.00

County Society Reports

CUMBERLAND VALLEY MEDICAL ASSOCIATION

The annual meeting of this association, celebrating its twenty-fifth anniversary, was held during September at Mont Alto Park, Franklin County, the place of its organization twenty-five years ago. The report showed that forty-six of the original seventy-seven members are now deceased. Fifteen of the original members were present at this meeting.

The president of the Association, Dr. A. W. Thrush, read a paper on "The Physician and the Community," and the guest speaker of the day was Dr. A. C. Morgan, of Philadelphia, president-elect of the State Society, who talked on "Precision in Diagnosis." Drs. T. H. Weagley, of Marion, and W. T. Phillipy, of Carlisle, presented reminisences of the organization.

W. A. Gordon, M.D., *Secretary.*

LUZERNE—SEPTEMBER

The first meeting of the Autumn was held in the Society Building on September 7, at 8.30 p.m., with President G. R. Drake in the chair. Dr. Vincent Gallezzi, of Pittston, and Dr. Robert Goodman, of Huntington Mills, were admitted to membership on transfer from the Northampton and Philadelphia County Societies respectively.

There were three essays composing a symposium on "Gastroduodenal Ulcer."

Dr. G. N. Fluegel: Etiology, Pathology, and Diagnosis.—Heredity, toxic agents, diet, worry, focal infection, and trophic disturbances have all been advanced as causes of ulcer. Hyperemia or even an herpetic eruption of the mucous membrane of the stomach may result from idiosyncrasies to certain foods, and these areas may be the nucleus for ulcer formation. The diagnosis is suggested by the digestive disturbances. The definite relation of the pain to food, the relief of the pain by vomiting or the taking of alkalis, the high acidity of the gastric juice, positive thread test, macroscopic or microscopic blood in vomitus or feces, and positive x-ray findings, all suggest ulcer.

In gall-bladder disease, vomiting affords little or no relief, alkalis have no effect, the pain has no definite relation to food intake, and the pain and tenderness are in the right hypochondrium. Chronic appendicitis sometimes gives reflex stimuli to the stomach, causing production of symptoms similar to gastric ulcer. An important differential diagnosis is that between ulcer and carcinoma. If an ulcer patient is given medical treatment, there is usually some improvement, but not in the case of malignancy.

In a report by Gray before the 1927 meeting of the American Medical Association, a series of 250 cases with the clinical symptom complex of duodenal ulcer showed one third to have stimuli responsible for the symptomatology. Tobacco smoking was the most frequent cause, next the chronic affections of the gall bladder, the constitutional factor, and chronic appendicitis.

Dr. Angelo L. Luchi: The Treatment of Gastroduodenal Ulcer (Medical Aspect).—The best method of treatment can be selected only after a careful analysis of an exhaustive diagnostic survey. This includes consideration of focal infection, blood dyscrasias, the autonomic nervous and endocrine systems, occupation, and environment. There follows the consideration of the intragastric condition. Acidity plays a secondary rôle in ulcer formation. Hydrochloric acid and pepsin are not the exclusive agents of mucous-membrane digestion; pancreatic juice, bile, bacteria, white blood cells, and even peptid-splitting enzymes of the blood are at times potent factors.

Ulcers of the pars pylorica and duodenum heal slowly and recur most frequently. Those of the anterior wall of the stomach and duodenum are most apt to bleed and perforate. Mechanical deformities and retention make the case surgical. Disabling perigastric adhesions, complicating chronic appendicitis or cholecystitis, and pelvic defects, make the case surgical.

If the case is medical, the patient must be ready to sacrifice at least two to three weeks in bed. He must adhere to certain dietetic and hygienic rules for several years. Surgery is not a cure-all or a short cut, because if the operation is to be successful, a postoperative medical régime is positively indicated. Medical methods have their failures because of insufficient treatment, late or wrong or incomplete diagnoses, and poor selection of cases.

Many pet methods of nonsurgical treatment are only hospital stunts. The patient should be at rest in bed for three to four weeks. Tobacco and alcohol should be taken away for at least six months. The diet should be liquid, principally fats and carbohydrates, until there is improvement in symptoms, when there should be a gradual change to a normal bland diet. Antacids are given in doses just sufficient to control hunger and digestive pain. Alkalinization to favor healing has been abandoned. The most frequent undesirable by-effect of huge doses of alkalis is excessive gastric secretion, with or without night-distress. By using the tertiary calcium and magnesium phosphate, the systemic effects are eliminated altogether. Atropin is useless for checking secretion or relaxing local spasm. Nausea and vomiting in a properly managed case mean surgery. Massive hemorrhage should be treated medically by absolute rest, ice bags, and morphin.

Dr. L. C. Mundy: Surgical Treatment.—Surgical mortality has been greatly reduced by the practical application to the preoperative care of patients of the products of modern scientific research, particularly those of the biochemist and physiologist. The fact that a patient has ulcer does not preclude the possibility of disease of the accessory digestive organs. The only

indications for hasty operation in cases of peptic ulcer are: (1) rupture of ulcer, (2) uncontrollable hemorrhage, (3) associated disease of gall bladder or appendix, and (4) early malignancy in gastric ulcer. All other cases lend themselves to careful study by a competent internist. Neurotic and mentally or constitutionally inferior individuals are poor risks. The most important contraindications to gastro-enterostomy are a short history, well-marked hypertonus, a high, abrupt curve of acidity, and rapid emptying. The most reasonable indications for operation apart from obvious stenosis are a long history, subnormal tonus, a slow-climbing curve, and slow emptying. Every case of duodenal ulcer of short duration, in the absence of evidence of rupture or severe hemorrhage, should be given a prolonged course of medical treatment.

Many surgeons favor some form of pyloric occlusion when gastro-enterostomy is performed for duodenal ulcer. Certainly cure, in our experience, has been mostly in cases which presented themselves for operation when vomiting and pyloric obstruction were the pronounced symptoms. There is a question whether the radical operation of subtotal gastrectomy, with its extensive mutilation, great shock, and high mortality, is ever indicated in simple gastric ulcer. Certainly for this reason it will not be routinely adopted by surgeons in smaller communities. The greatest use of gastro-enterostomy as a surgical therapeutic measure is for the cure of duodenal ulcer. The percentage of complete cures in gastrojejunostomy for duodenal ulcer ranges in various clinics from 80 to 85 per cent. The mortality has been reduced by improved knowledge of gastric function and improved technic.

The success of stomach operations depends greatly on a careful after-treatment. Deaver gives water by bowel for the first 24 to 48 hours. On the second or third day he allows liquids by mouth and soft diet by the end of the first week. The patient on discharge is given a diet list and enjoined not to eat fried or fatty foods, sweets or pastries, for at least a year following operation. The Mayo Clinic does not allow fluid by mouth for as long as four days, maintaining the proper fluid balance by proctoclysis, hypodermoclysis, or intravenous infusion.

Dr. Freeman: The most important thing is the diagnosis. The second is to build up the resistance of the patient. Most of these are anemic, under weight, and run down, and have been for several years, except in the acute cases. I personally think that all ulcers which are not acute or obstructive are medical first and should be given the benefit of medical treatment.

Dr. Mayock: I believe Dr. Luchi brought out a good point. Many people believe that after operation they are through, and the surgeon, in the past, has been responsible in large part for this feeling. The patient has not received benefit from the operation because he would not diet. After operation the patient should undergo a long régime of dietary regulation.

Dr. Long: I was struck with the uniformity of opinion between the surgeon and the internist. If a surgeon had come up here a few years ago and said that an ulcer case might be medical, he would have been criticized. I am glad they now agree. Physicians who have had ulcers will agree that they have secured relief with atropin. It is necessary to give sufficient doses.

Dr. Heyer: In a series of cases studied at Harvard (not ulcer cases, but normal men), the gastric acid in tobacco smokers was increased from 7 to 12 per cent. If morphin is used, it must be used carefully until it is learned how the patient will bear it, because of the danger of emesis. The most efficient means we have for the control of vomiting, whether pre- or postoperative, is saline proctoclysis or hypodermoclysis. The blood chlorids must be kept up.

Dr. Luchi (in closing): We must be sure of the ulcer. The only positive diagnostic hint is not the relationship of pain, meals, and vomiting, but the periodicity. That is the only thing that suggests ulcer. I think the theory that ulcer changes into carcinoma is one of the heresies propagated from Rochester, and that treatment of ulcer by the transduodenal tube is only an institutional "stunt." By putting down a second tube it has been found that the stomach secretes fluid as soon as food is introduced into the duodenum.

Lenhartz in 1902 suggested his treatment with cream, etc. Sippy went over to Vienna and later wrote his first paper about it. However, the treatment itself dated back fifty years, and before that it was used in the second century B. C. Perfect alkalinization does not heal. On the other hand, there is a possible factor against it: huge doses of alkali cause hypersecretion, which in many cases causes very serious distress.

The use of chlorids by hypodermoclysis or proctoclysis is the best method of treating vomiting if the vomiting due to high intestinal stasis which causes a clinical picture similar to high obstruction is meant. The chlorids of the blood go down as far as 200 mg. It has been established that probably what is missing is water and chlorids; therefore, they have tried to check that condition by giving saline solution, and not being sure the liver is not involved, have added glucose. At the Mayo Clinic they use about 50 quarts a day, and it certainly checks the vomiting.

Dr. Mundy (in closing): At the Mayo Clinic I have seen them hold patients with high obstruction or stasis for 72 hours or four days by giving chlorids and water, and afterward operate with success.

Lewis T. Buckman, M. D., *Reporter.*

LYCOMING—SEPTEMBER

The Society had as its guest at the meeting on September 9th Dr. Chevalier Jackson, professor of bronchoscopy and esophagoscopy, Jefferson Medical College, Philadelphia. Before an assemblage of physicians, nurses, and public-health workers, which filled completely all available space in the council chamber of City Hall, Dr. Jackson discussed the "Prevention of Foreign-Body and Lye Accidents." He emphasized the necessity of having packages of lye properly labeled "poison," and showed how easily children obtain lye, and how careless parents often are in leaving the package within the reach of children. Through the efforts of Dr. Jackson and his coworkers, eighteen states have passed legislation regarding the proper labeling of packages of lye in order that housewives may be educated to realize that the contents are poison.

He spoke of the importance of preventing foreign-body accidents, showing that they are the result of somebody's carelessness, either directly or indirectly. Most of these cases can be prevented if mothers, nurses, and those who care for children, would only be watchful and have in their minds the constant danger which is always present, especially if dangerous objects are left within reach of the child.

One unusual case cited by Dr. Jackson was that of

a ten-day-old baby who had swallowed an open safety pin to which a button was attached. They belonged to the maternity nurse, and in some manner, as the nurse put the baby over her shoulder, the button and pin were sucked into the child's mouth and swallowed.

Hasty eating by adults is often a cause of accidents. One woman, while eating oysters, thought a portion of an oyster shell had lodged in her esophagus. It proved, however, on removal, to be the top of a catsup bottle.

The address was illustrated by a series of lantern slides. Two reels of motion-picture films dealing with the subjects were shown and discussed.

W. E. Delaney, Jr., M.D., *Reporter.*

WASHINGTON—SEPTEMBER

The first meeting of the Society following the summer recess was held in the new Washington Hospital, Washington, on Wednesday, September 14, at 2.30 p. m. President Donehoo was in the chair.

There was a short business session during which there was considerable discussion on the danger of infantile paralysis in Washington County. Dr. W. D. Martin, County Health Director, stated that there were only four cases in the county and that two of these were about to be released from quarantine. As the epidemic is subsiding in the adjacent West Virginia and Ohio territories, it was decided to lay the matter on the table for the present.

Dr. G. A. MacGregor, of the Wheeling Clinic at Wheeling, W. Va., read a paper on the subject of pernicious anemia. He first gave a very simple classification of the various anemias and their relation to pernicious anemia, and then described the possible causes, major symptoms, and signs of the disease. Following this the various remedies for this disease were discussed and final emphasis was laid on the Minot-Murphy diet. He explained the diet in detail, and reported the results of its use in the clinic on a number of cases. With one or two exceptions, which could be accounted for by other factors, the improvement in all of the cases had been very rapid and so far was permanent.

C. A. Crumrine, M.D., *Reporter.*

WYOMING—SEPTEMBER

The Society met at Clinic No. 56, Tunkhannock, on September 8. The meeting was called to order by President C. L. Boston, of Noxen, and the minutes of the previous meeting were read and approved. Dr. W. W. Lazarus was elected a delegate to the State Society meeting.

Dr. James H. McKee, of Philadelphia, read a paper entitled "Dame Rumor Meets Dr. Plumb." Dr. Donald Guthrie, of Sayre, was also present and gave a profitable talk. He is at present preparing a paper on "What Happens to the Country Practitioner," and gave sketches of his theme in his talk.

There were ten members present and four visitors. After the meeting dinner was served at the Elm Tree Tea Shoppe.

H. L. McKown, M.D., *Reporter.*

YORK—SEPTEMBER

The Society met on September 1, with President E. S. Stambaugh in the chair.

Dr. H. Brooker Mills, of Philadelphia, delivered an address on "Infant Feeding." He emphasized the importance of keeping the baby on breast milk. A normal gain in weight and good digestion should guide the feeding interval, as waking the baby from a sound sleep to feed at a set time is not desirable. Ten-minute nursing periods are sufficient. Spinach and carrot juices may be fed at the third month, and fruit juices at the fifth. The baby should be removed from the breast at the end of one year.

Dr. Mills mentioned the multitude of milk modifications for the bottle baby, but advocated at the beginning, for the general practitioner, the rough-and-ready method of calculation: one part milk to three parts water up to three months; equal parts up to six months; three parts milk to one part water after six months; and whole milk at nine months, with the addition of cane sugar as indicated. The baby's stomach will hold one ounce more at a feeding than the age in months, and the interval should be the same number of half hours as the number of ounces of food in the bottle. Dilute the milk with barley water, in diarrhea; use oatmeal water, in constipation, and boiled water when the stools are normal.

Fat excess is shown in the food by regurgitation. Carbohydrate excess is evidenced by frequent, watery, acid stools with much flatulence and colic. Protein excess is recognized by a large, cheesy curd and constipation.

Dr. Mills advocates the feeding of egg-yolk-and-orange-juice, and acidified-milk mixtures. The former is made by adding ⅛ of an egg yolk to 2 ounces of milk, 1 ounce of water, 1 teaspoonful of orange juice, and 1/10 of an ounce of cane sugar per pound of infant's weight. To make the acid milk, boil one quart of milk for five minutes, stir well, stand on ice until cold, skim off scum on top, and then add two teaspoonfuls of lactic acid, U. S. P., and two tablespoonfuls of Karo syrup.

Complete pyloric stenosis is a surgical condition. Diet is important in pylorospasm: (1) stop all liquids; (2) feed equal parts of thick cereal and mashed potato.

Milton H. Cohen, M.D., *Reporter.*

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

Mrs. Samuel Bolton, *Editor*
4701 Leiper Street, Philadelphia, Pa.

COUNTY AUXILIARY REPORTS

BEAVER

The regular meeting of the Auxiliary was held at the Beaver Valley Country Club, Friday, September 2, with twenty-five members present.

After a delightful luncheon, Mrs. McCandless called the meeting to order, and the minutes and committee reports were read. The response from the physical-examination reports to Mrs. Hunter, public-health chairman, was not satisfactory, so it was voted that each lady make that report to Mrs. Hunter before the next meeting the first of the year.

The President urged a goodly number of ladies to attend the State Convention meetings of the Auxiliary to be held in Pittsburgh the first week in October. Mrs. Crumrine and Mrs. Hunter were appointed official delegates.

Nominations were then made by ballot for the officers for the coming year, and put into the hands of the nominating committee.

It was a great pleasure to welcome home Mrs. E. S. H. McCauley, one of our members, who is now State Secretary of Welfare. She spoke to us regarding the recent legislative activities of the Department of Welfare in a most interesting and instructive manner. All those present were impressed with her talk and felt that great strides are being made in Harrisburg toward the further protection of the health of those in the Commonwealth.

Mrs. Norman R. Crumrine, *Reporter.*

WESTMORELAND

On September 6th Mrs. C. D. Ambrose, of Ligonier, delightfully entertained the Auxiliary at a bridge-luncheon at her home on Church Street.

During a brief business session, a motion was passed to substitute for the regular October meeting a day at the State convention in Pittsburgh. The Auxiliary is to attend as a body and all members are urged to be present. The date selected was Wednesday, October 5th. Mrs. J. H. Fiscus and Mrs. C. F. Pierce were elected delegates to the convention. Each member was reminded to secure three subscriptions for *Hygeia* to be reported at the next meeting.

Bridge prizes were awarded to Mrs. C. C. Porter, of Greensburg, Mrs. C. A. Goble, of Jeannette, and Mrs. H. H. Hamman, of Greensburg.

Mrs. P. G. McKelvey.

THE HARD-OF-HEARING CHILD

Report of the Commission on Education of the American Federation of Organizations for the Hard of Hearing

Because defective hearing is less apparent than defective eyesight the former defect has been more overlooked than the latter, although neither of these handicaps has received the attention it deserves. Often the hard-of-hearing child does not know that he is hard of hearing, and it is the business of the school to discover his condition and to see that everything possible is done to remove the defect, or to compensate for it by special training.

It is fortunate that the American Federation of Organizations for the Hard of Hearing has undertaken to learn just how much can be done in finding, treating, and teaching those school children who do not hear as do their fellows. The commission devoted over two years to this study. They also presented detailed technical reports to the American Medical Association and allied societies.

The following resolution was presented to the delegates of the American Medical Association assembled in annual session, May, 1926:

Recognizing the fact that the most effective means for the prevention of deafness consists in the early detection of hearing impairment, thereby giving opportunity for prompt removal of contributing causes, and believing it to be one of the important functions of our public school authorities to safeguard the integrity of the special sense organs, as well as the general health of the school child, be it

Resolved by the Section on Laryngology, Otology, and Rhinology of the American Medical Association, That it heartily favors the provision of our public-school authorities for regular periodic examinations of the hearing acuity of all public-school children, such examinations to be adequate to detect even slight degrees of hearing loss; and be it further

Resolved, That this resolution be referred to the House of Delegates of the American Medical Association for its endorsement.

The medical profession thus definitely endorses the efforts of the Federation of Organizations for the Hard of Hearing to promote country-wide knowledge and action in behalf of the hard-of-hearing child.

This commission was appointed to find: (a) the best means of detecting impaired hearing in children, (b) the best means of giving such children medical treatment, (c) the best means of giving such children proper educational treatment.

It is evident that a satisfactory answer to the first question must be obtained before much progress can be made toward answering the other two. The commission therefore devoted a large part of its time to the problem of the best means of detecting impaired hearing in children, and emphasizes this phase in the following report:

The methods commonly used to detect hearing defects have been the "watch-tick" or the "whispered-speech" tests. They yield good results when used by an experienced tester in a quiet room, with relatively few to be tested. The watch tick tests the high notes in the tone scale, while the whispered-voice test employs mainly the middle register.

On the problem, then, of the best means of detecting impaired hearing in children, the commission reports from its experience: (1) That the best method now available for testing the hearing of school children is by the phonograph audiometer (4-A). By its use 100 to 150 children can be accurately tested per hour. (2) That in small schools (this has a bearing on the rural problem) where it is economical to test children one by one, the 3-A audiometer is desirable. With this instrument, 20 to 25 can be tested per hour. Children in the first and second grades must be tested individually. (3) That in recommending a method involving apparatus, the commission realized that the economic side of the problem must be considered. Maintenance expenses of testing with the 4-A audiometer (stationery, phonograph records, and needles) would be small; the considerable item is the initial cost of equipment. In view of the fact that 100 or more children can be tested in an hour, the time involved and money expended for salaries would be far less than by the slower existing methods; nor is an expert needed. The commission therefore considers this method economically sound.

It is not the purpose of this report to discuss in detail the medical care of the deafened cases found by these tests. Most communities have expert otologists available who are familiar with these details and can advise school investigators. Their coöperation is essential in any effort to alleviate or prevent deafness among school children. General hygiene and attention to diet will help. Sometimes the removal of wax or of a foreign body from the ear canal is the only treatment required. Discharging ears should be kept clean. The treatment of carious teeth and removal of diseased tonsils and obstructing adenoids are important. The coöperation of the district nurse or the social worker is often necessary. If a case be found of acoustic-nerve deafness which is beyond help, the child should be assigned to a special class, or sent to a school for the deaf, depending upon the degree of impairment. Faulty speech habits are prone to develop in the more advanced forms, and these should be noted and corrected so far as possible.

Each community must discover how best to employ its existing facilities in the care of the hard-of-hearing children. In a few cities a diagnostic ear clinic has been established in immediate connection with the public-school system, which has proved very efficient. This permits the careful observation and recording that certain cases should have, facilitates the proper assignment of operative work, and encourages the follow-up work so essential for the best results.

It has long been known that defective hearing is not so easy to detect as lowered vision. Frequently a child adjudged stupid or mentally deficient may have been simply hard of hearing. When speech reading is learned (and children learn it more readily than adults), and the child is properly seated in relation to his teacher and the class, he often becomes a star pupil. Another baffling problem is sometimes solved by the hearing test—that of the child who hears much but has a slight defect which prevents him from understanding certain degrees and kinds of sound. The dif-

ficulty once discovered, methods can be devised to overcome it.

The tuning-fork, watch-tick, and whisper tests by experts are still possible, but in recording the hearing capacity of a large number, the time and effort they require are very considerable. Any instrument, such as the phonoaudiometer, which will get accurate results in one-third to one-quarter the time, under good psychological conditions also, is certainly worth a fair trial.

When children are found to have a hearing loss of from 12 to 15 per cent, it is believed that they stand in need of special examination and care. More accurate information on this point in work so new will have to be gained from experience. One year's intensive work with an instrument like the phonoaudiometer will undoubtedly prove of great value in answering this point.

In one city where 3,163 children were tested with the phonoaudiometer, the per-capita cost was estimated at 12 cents.

Only such children as show the effects of deficient hearing in their school work will need to be given special instruction, and this will cease to be needed when these pupils have acquired such facility in "speech reading" that they can profit by ordinary methods of teaching. In some cities a specially trained teacher goes from school to school, giving instruction in speech reading individually or to small groups of not more than six pupils as a rule. The periods range from 30 to 45 minutes each, and from once to four times a week. This has brought fruitful results. The child continues with his regular class, and he and his room teacher are intelligently advised of his needs, while his parents are better satisfied because he has not been marked as different and sent to a special school. Economically we find this to be sound, for in studies of figures we note that, while it costs $180 a year to educate a child in a special school, it cost in one city only $129 to educate him in this special class.

As soon as hard-of-hearing children, whether in special classes or special schools, acquire enough facility in speech reading to follow classroom instruction (if placed in proper relation to the teacher and the light), they would be returned to full-time regular classes.

Arranging for Health Examinations.—The laity have accepted the value of periodic examinations more readily than the medical profession in general. Many instances are known of physicians who have made light of requests for such examinations and have told the applicant he need not bother about himself till he is sick.

The average physician recognizes the soundness of the principle of periodic examinations for the following reasons: Knowledge of the physical defects of his patients will save him embarrassment in explaining the sudden death of one whom he hasn't seen professionally for a long time; it will save serious illness or death of patients by directing the life of one in whom a defect is found; it will enable him to cope with disorders, the fundamental nature of which may be clouded by the acute symptoms. There is another point which few have considered; i. e., that these examinations may add considerably to the physician's income by building up a large clientele who will come in regularly and pay a fee greater than that of the usual office visit.

This work belongs preëminently to the family physician and should be retained by him. If, however, he does not accept it, it will go elsewhere. The reluctance of physicians to make these examinations is probably chiefly due to the fact that the applicant has appeared on a busy day and time is not available for a thorough investigation.

The slogan "Be examined on your birthday" has never appealed to the writer: so many birthdays occur in his busy season or during his vacation. If this valuable health measure is to be put forward successfully, it must have the hearty coöperation of a large number of physicians. In order to get this it must be so arranged that it may be done most conveniently for his already busy days. The method of the writer has been successful in accomplishing this and it is offered to his colleagues for their consideration.

If the applicant appears on a busy day, as much of his history is taken as time permits. Then an engagement is made with him for an early date. Enough time is assigned him for a complete examination and discussion of his defects and the alterations in his diet, exercise, habits, etc., needed to protect him from these defects. He is then put on a list for subsequent observation in one, three, six, or twelve months according to the disability found. Those in whom no faults are found are asked to return in May, June, September, or October, for these are the months in which there is least sickness. He prefers September, for on his return from vacation he has so little to do that he fears his practice has left him. These examinations profitably occupy this spare time. The patient is notified of the time of his appointment and told to arrange another time, if that assigned does not suit. This notice was adopted only after it was found to meet the approval of nearly all. By this method many examinations are made each year with a minimum of interference with attendance on the sick.—Editorial in the *Weekly Roster and Medical Digest*, Philadelphia.

The Effect of Inadequate Illumination.—At birth the eye of an infant is hypertropic; that is, it is a short eye which continues to develop, growing longer and undergoing normal physiologic alterations of refraction until about 20 years of age. It is well known that an appreciable number of children who graduate from elementary schools are nearsighted, and that the tendency is for nearsightedness in growing children to become worse. It is quite evident, therefore, that the greatest care and attention should be given to protecting the vision of school children at the impressionable age of changing visual acuity. On the care given to the conservation of eyesight of school children depends in large measure whether or not incipient defects become aggravated to such a degree as to impair the efficiency of the individual for the special vocations. Defective illumination of classrooms also has an adverse influence on the activity of the intellectual processes of children. The young child requires greater intensity of illumination than the adult to enable it to interpret the meaning of written or printed characters. One reason for this is physiologic. Another is that these characters are familiar to an adult, and are, therefore, easily recognized and interpreted under conditions of poor illumination. Furthermore, the mind of the young child functions largely in proportion to the volume of stimulation received through the eye. Whenever, by reason of faulty illumination, extra effort is required of the ocular muscles to accommodate for the recognition of written or printed characters, fatigue is soon produced, and the intellectual development of the child is hampered. Faulty illumination causes the assumption of injurious postures and the acquirement of a "postural habit" that may aid indirectly in the production of postural defects which may act injuriously on the general health in later life. In fact, the faulty posture frequently assumed by the child under conditions of poor illumination has been assigned by a number of medical authorities as a causative factor in the production of nearsightedness.—U. S. *Public Health Reports.*

THE

MEDICAL SOCIETY OF DELAWARE

SOME POINTS TO BE REMEMBERED IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS*

L. D. PHILLIPS, M.D.
DOVER, DEL.

It is not the aim of this paper to present any new or unrecognized means of diagnosis or treatment of pulmonary tuberculosis, nor to set forth definite facts as being infallibly diagnostic, but rather to call attention to some of the important factors which aid in recognizing this disease.

Tuberculosis, as we all know, is never spontaneous, and it is questionable if any case is ever hereditary. It is, rather, the result of infection by tubercle bacilli after birth, and for any one to have clinical tuberculosis he must first be infected by this organism, either directly or indirectly. Statistics show that the majority of infections occur during the first fifteen years of life. With this in mind, the patient is questioned regarding his family as to a source of infection, and if this be found, the degree of contact and the age of the patient at the time, are important. Family histories revealing deaths from chronic bronchitis or asthma are suspicious. A history of a long immediate contact, when the patient is under fifteen years of age, is far more important than a history of a transitory one when the patient is over fifteen.

Regarding the past history, the two important things to elicit are pleurisy and hemorrhage, and all new patients should be questioned as to whether they have ever been away or have ever been advised to go away for their health. In doubtful cases, where the patient has been away, one should request a copy of the physical and clinical findings from the institution where he had been under treatment.

It is important to know the date of onset of the present illness, and if the patient felt perfectly well up until this date or had similar attacks previously, with the duration and ultimate results of these previous attacks. Also the nature of the onset should be inquired into. A cold invariably begins in the head and travels downward, while in pulmonary tuberculosis quite often the patient will state emphatically that the cold began in the chest and did not affect the head. There is no diagnostic cough, but any that lasts more than a month should be considered suspicious until the cause has been definitely ascertained. It is well to inquire further into a history of night sweats, as the ones caused by tuberculosis infection generally occur past midnight and are usually sufficient to waken the patient, and are not those on first retiring which a history frequently reveals.

Definite hemoptysis is considered the most important diagnostic symptom of tuberculosis (by definite is meant more than a drachm of pure unclotted blood). Acute respiratory infections will quite often cause blood-specked or blood-streaked sputum, due to the marked congestion of the mucosa and severe paroxysms of coughing, while bleeding from a broken-down tuberculous foci in the lung parachyema will generally give a history of blood elimination for several hours following the brisk hemorrhage, due to accumulation of blood along the bronchial tree. The higher up this bleeding, the shorter the elimination period; so with a history of hemorrhage followed by no subsequent elimination of blood, the mouth and pharynx should be carefully examined. Also be sure the initial bleeding was not from the nose, which later was expectorated from the mouth. Frequently, chronic conditions of the nose, throat, and sinuses will produce symptoms which closely simulate tuberculous disease.

Active pulmonary tuberculosis is not found in a patient with normal temperature and pulse. The pulse is invariably more unstable than the temperature, as frequently the temperature may be normal while the pulse reading is 90 to 100. Either, to be of any diagnostic value in a doubtful case, should be taken every two hours for several days. A weekly weight chart will quite often be a material aid in forming a diagnosis.

A positive sputum is the only reliable finding that absolutely clinches a diagnosis of tuberculosis. In the absence of this a diagnosis is made by combining the history, symptoms, physical

*Read before the Medical Society of Delaware, at Dover, October 12, 1926.

signs, and x-ray findings, drawing conclusions therefrom. As a positive sputum immediately diagnoses the case, it should always be obtained from every patient who expectorates. How often do we treat cases of what we consider minor ailments of the respiratory tract in which there is a productive cough, and fail to have the sputum examined! Yet we would not think of treating a patch on the tonsil or pharynx without a culture, a urethral discharge without a smear, or a continued fever without a Widal test, though obtaining the sputum is one of the easiest of all procedures for a laboratory examination.

Patients having symptoms of this disease but negative physical and x-ray findings should never be diagnosed as tuberculous. They should, rather, be classed as suspects and placed under a period of observation sufficiently long to enable definite conclusions to be drawn. Patients with symptoms of more or less long standing will present definite lung findings on examination if the case is one of pulmonary tuberculosis. However, if the lungs are clear and the x-ray negative in these cases, attention should be centered elsewhere for a causative agent of the presenting symptoms.

Chest cases can generally be divided into three groups, based on the manner in which they relate their ailment. There is that group which have all manner and kinds of symptoms, not only pertaining to the lungs, but any organ you care to question them about, and the more you listen, the more fixed it becomes in your mind that you will find very little physically wrong on examination, and this almost invariably happens. A second group is the type who give but little information, and a history is obtained only by close questioning. This group impresses you as being afraid you may pronounce them tuberculous and are greatly relieved when the findings are negative. The third and most important group are those who give definite symptoms without exaggeration, but who make light of their present trouble and readily account for their condition as arising from some minor ailment and have consulted you just to alleviate the fears of a well-meaning relative or friend. This group should be carefully examined, and if necessary, reëxamined, as a lesion will generally be found.

One can pick up practically any textbook dealing with physical diagnosis and find a lengthy description of the phthisical chest—long, narrow, flat, with prominent clavicles with retractions above and below, winged scapula, etc. —which, after all is said, does not state that clinical pulmonary tuberculosis just as frequently affects the well-developed athletic chest as the one described. Some of the modern writers are now taking the opposite view, that tuberculosis produces by its wasting the phthisical chest instead of the phthisical chest favoring the development of the disease. Other factors being equal, I believe that a long narrow chest is not more prone to clinical tuberculosis than an athletic chest; and if statistics do show a higher morbidity in the long narrow chest, I should attribute it to undernourishment and poor hygienic conditions rather than to a definite structural formation of the chest.

However, the important findings on inspection are in regard to symmetry of the two sides, whether one is depressed more over the apex of the lung than the other, and whether they can be filled out equally on deep inspiration. A suspicious sign is dimpling of the hilum (especially in children and young adults). This is a depression or dimpling of the second and third interspace on either side, near the sternum. It suggests enlarged adherent tracheobronchial glands infected by the tubercle bacilli earlier in life, which, if present, may be in any stage of pathology up to and including calcification. Patients with hilum dimpling may show no parenchymatous involvement on examination, but should be x-rayed and receive further study, especially in the younger patients. In cases showing scars about the neck from presumably broken-down tuberculous glands or evidence of healed bone tuberculosis, one should not be hasty in making a diagnosis of pulmonary tuberculosis, but rather should be cautious, as this type of patient probably has a higher immunity to a pulmonary lesion than one with no previous signs of a tuberculous condition. The same, to a lesser extent, holds true in cases of enlarged infected tonsils or evidence of adenoid tissue. Quite often these patients will give a definite history of loss of weight, fatigue, chronic cough, and fever, which symptoms rapidly subside under proper treatment or removal of the diseased tissue.

Before percussing or auscultating, it should be determined whether or not the chest is symmetrical, as frequently a different resonance is elicited from the two sides, with exaggerated breath sounds on one side and feeble sounds on the other, and the condition reversed when listening posteriorly. This may be a case of rotated chest due to spinal curvature, and the lungs show no lesion, even with such a marked variation.

On percussion of the lungs, we endeavor to map out any area present that may range from impairment to flatness as well as hyperreso-

nance. The custom is to begin at about the middle of the chest on either side, and go up or down, for the reason that the ear is quicker to differentiate an impaired note from a resonant one than vice versa. The middle is selected for the normal note, as parenchyma involvement is generally found in the upper half, and fluid or thickened pleura in the lower half. The chief difficulty in ascertaining anything from percussion lies in the fact that too heavy a blow may be struck, and too much pulmonary tissue set into vibration. As an illustration, say a given light blow sets up vibration of an underlying cubic inch of tissue, while a heavy blow sets up vibration of three cubic inches. Now take a pathologic lesion of two cubic inches, light percussion will detect it, while heavy percussion will set so much surrounding normal tissue into vibration that the resonance drowns out the impaired note. A good practice is to strike a blow sufficient barely to produce audible resonance, so that when percussing over an impaired area the note is lost.

Figuring the lungs in mathematical terms, they take in and give out a definite amount of air at each respiration, with a definite amount of residual air. The body requires a certain quantity of oxygen from this air. When a sufficient amount of lung tissue is disabled, it becomes necessary for the remaining normal tissue to increase its efficiency, and thereby we have what is called compensatory breathing, which is of a harsh, exaggerated quality. In auscultating such a chest, one is prone to listen more carefully over the areas where he hears this abnormal compensatory breathing than over areas of feeble breath sounds, as the ear detects abnormal harsh breathing more readily than abnormal feeble breathing. Therefore, one must bear constantly in mind that the areas which are difficult to auscultate are the areas to which the most attention must be paid, as here is where the trouble lies.

The auscultatory lung findings will depend upon the virulence of the organism and the resistance of the host. In the acute progressive types, the destruction greatly exceeds any attempt at repair, so the usual findings will be feeble or diminished bronchovesicular or bronchial breathing and practical absence of the harsh expiratory murmur, while in the chronic types the outstanding feature will be the expiratory sound, proportionate to the degree of chronicity. These breath sounds will also be influenced by the acuteness of the disease, the stage of the lesion, its relation to the bronchial tree, and the condition of the overlying tissue. One should keep in mind that practically all lesions involve the pleura and set up adhesions and thickening which modify greatly the intensity but do not change the tone. For instance, in the presence of a cavity with slight thickening of the pleura, the cavernous breathing is loud and appears close to the ear, while with the same cavity and marked thickening and adhesions of the pleura, the sounds are feeble and distant, but still cavernous breathing. Also, conditions being equal, the more active the lesion, the more diminished the breath sounds.

To be given the opportunity to make a diagnosis of early incipient tuberculosis is quite uncommon, as by the time a patient has severe enough symptoms to consult a physician this stage has passed. The pathology of the truly incipient lesion is a small area of peribronchial infiltration which has not broken down. The auscultatory finding is a localized, persistent, rough, low-pitched or granular breathing; no râles, no change of expiration, negative sputum, but slight impairment of tone may be elicted over this area. If it is our privilege to diagnose an incipient case which, on proper treatment, improves and has no recurrent attack, there must always be some doubt as to the diagnosis. On examining a large group of apparently healthy subjects with no symptoms, one may find quite a few who had incipient or abortive lesions years before which are now definitely healed, but physical signs of which still remain. There must also be a doubt as to the reliability of the high percentage of cures in sanatoria which admit only these incipient cases. But in such cases, one should not wait for a positive sputum or until the lesion has extended before making a diagnosis and advising treatment, but rather, if the summary of the symptoms, physical findings, and x-ray suggest tuberculosis, it should be pronounced so. However, if the diagnosis is still doubtful, the patient should be placed under observation, preferably in a sanatorium for further study. The finding of a pulmonary lesion in a patient without symptoms requires no treatment, as he is not at present suffering from this disease. It is apparently easy to diagnose a case of moderately advanced or advanced tuberculosis, but it should be borne in mind that in a certain percentage of such cases the diagnosis is wrong. Quite a few non-tuberculous processes of the lungs will simulate tuberculosis, both in history and physical findings, and it would be a good rule, in any active case with persistently negative sputum, regardless of the symptoms and findings, to look for another causative agent other than the tubercle bacillus.

Having made the diagnosis of pulmonary

tuberculosis, the question arises as to whether the infection is active or nonactive, as on this depends the treatment. An active case cannot be determined from a physical examination, as activity is based upon present symptoms, temperature, pulse, and weight. An adult patient, stationary or gaining in weight, with no symptoms of toxemia, and with a normal pulse and temperature, does not have an active case, regardless of the chest findings.

Prognostication in a case of tuberculosis is an uncertainty, as this type of patient generally has the habit of changing the outlook several times during the course of the disease. However, there are a few deductions which live up to the expectancy.

In the acute pneumonic phthisis with high temperature, rapid pulse, and no physical findings in the chest signifying any attempt to retard or repair the advancing destructive process, the outlook is grave.

In the chronic types, from the past duration and present findings considerable can be deduced. A patient having had the disease for several months, with slow advancement of the process and the general condition still good on no treatment, will undoubtedly greatly improve under proper treatment. Quite a little information can also be derived from the expiratory murmur, as the intensity is usually proportionate to the degree of formation of fibrous tissue. However, an acute case may change to chronic, or vice versa, at any stage of the disease, which will entirely change the prognosis. We often hear that patients cannot change climate after arrest of the process; that is, a patient, leaving for a distant climate, if his disease is arrested there, cannot return home. This is generally stated as entirely due to climate, while the main reason is undoubtedly that patients who return home invariably throw off all restraint and return to their former mode of living, which probably caused the initial breakdown rather than the climate.

ABSTRACT OF DISCUSSION

Albert Robin, M.D. (Wilmington, Del.): In spite of all the propaganda carried on in this State, I do not find that we have progressed very much in this work. The attitude is about the same as it was twenty years ago. Patients still come in with fairly advanced tuberculosis who have been treated for colds, a run-down system, neurasthenia, etc. There seems to be a peculiar subconscious mental resistance in the diagnosis of disease. Another difficulty is that the physician, having diagnosed tuberculosis, does not know what to do with the patient, for it means an entire change in his mode of life and often disintegration of his family. Another factor is the difficulty of making a diagnosis. Even experts make mistakes. Physical findings may be negative, and yet a subsequent examination will reveal a fairly advanced case. Localization of the disease is often not possible, and the physical findings may be so obscured as make diagnosis mere guess work.

We know that tuberculosis itself is not hereditary, but we are quite certain that a tendency toward or resistance to it is transmitted. Based on the observation that not all children of tuberculous parents develop tuberculosis, I have come to the conclusion that immunity is transmitted more or less through Mendel's law; that is, it is transmitted to the progeny in certain proportions. Approximately two out of six children will be tuberculous.

The clinical picture of the disease, it seems to me, is our bulwark rather than physical findings or laboratory tests. It is fairly constant because the toxin of the tuberculosis bacillus produces certain physiologic reactions, and study of them will give an indication of the process that is active in the body. Focal manifestation often occurs early in the disease, where the bacillus is confined to a very small area, and yet produces certain systemic effects, notably loss of weight. The tuberculosis toxin seems in some way to increase the metabolic rate. In this respect it resembles Graves' disease, and with this disease it is frequently confounded, for in both conditions there is also rapid loss of weight, rapid pulse, and low-grade fever. A differential diagnosis requires very careful study.

In differentiating from septic infection the afternoon temperature is very significant, because in such infection fever seldom occurs with the same regularity. The peculiar temperature curve which is as characteristic in tuberculosis as in typhoid fever (subnormal in the morning, and supernormal in the afternoon) is never found.

Again, tuberculosis must be differentiated from so-called neurasthenia. In the latter condition the patient wakes up feeling tired and it is only in the day's work that he forgets himself and begins to feel fit. Exactly the opposite is true in tuberculosis. Here the patient feels better in the morning, as indicated by a slow metabolic rate, better pulse, and low temperature, but as the day goes on he begins to feel bad. Diagnosis could be made on that factor alone, with the chances of mistake being very few.

In early incipient cases of tuberculosis at times there is a dilatation of the peripheral blood vessels in the chest on the side of the lesion, and often a muscular spasm, which is as important in tuberculosis as in appendicitis. It is by very light palpation that a diagnosis of early appendicitis is made. So, if you will close your eyes and very gently palpate the chest with the tips of the fingers, in tuberculosis you will find a very slight muscular rigidity of the part affected.

I deplore the taking of sputum examinations to the laboratory, for so many physicians are apt to relieve themselves of the bulk of the study and let the laboratory worker make the diagnosis. Furthermore, it often happens that a physician will be satisfied with a single negative report—which is worthless, for the sputum is positive only when the disease is well advanced.

The same thing frequently takes place with regard to the x-ray examination. Many physicians shift the responsibility for a careful study of the case to the roentgenologist. This is unfair, and does not absolve the clinician. The lesion will not appear in the x-ray picture if it is smaller than a half-dollar, and there will be no indication whether it is new or old. Considerable infiltration due to fibrosis will be shown by the x-ray, and yet the patient may be free to continue his activities. The physician must train his eyes and

ears to close observation, for after all, the clinical manifestations of the disease are most important, and neither the microscope, the x-ray, nor any laboratory method can take the place of proper clinical observation.

From my experience with tuberculosis, I can say categorically that there is only one cure for it—rest, fresh air, and good food. The prognosis of the disease is indicated by the patient's condition in the first six weeks. If after six weeks in bed neither the temperature nor the pulse rate shows a tendency to come down and there is no possibility of suppressing the condition, the patient is probably hopelessly doomed. If, however, he shows improvement, the chances of recovery are good. The patient's life may be prolonged by keeping him in bed, but when this is necessary, cure seems to be impossible. A great deal depends upon the patient's state of mind. Time and time again I have seen a patient whose lesion was neither extensive nor very progressive, but whose case ran an unfavorable course because of his attitude of grouchiness and fault-finding. On the other hand, the cheerful, bright patient will invariably recover if the lesion is at all curable.

William F. Bonner, M.D., (Wilmington, Del.): Hemophilia must be ruled out in diagnosing chest conditions. In a recent case a massive hemorrhage from the lung occurred. The internist could find nothing to account for it. X-ray examination indicated carcinoma of the lung. The bronchopist diagnosed hemangioma of the lung. The coagulation time was 27 minutes, which after appropriate treatment was decreased to seven minutes.

In the Air Service there was much discussion as to whether men with healed tuberculous lesions should be permitted to fly or to serve overseas. One of our best pilots had a healed lesion demonstrable by x-ray and by percussion. Yet he was able to pass one of the best duration flying tests in the Air Service, and made one of the best records ever made in the altitude test. Nevertheless, he was kept from going overseas because of this lesion.

J. W. Bastian, M.D., (Wilmington, Del.): In my experience there is no other one symptom so important as the temperature from four to six o'clock in the evening—perhaps 99.5°, with a morning temperature of 97-98°. A patient who is gradually losing weight, feeling out of sorts, perhaps without cough, but complaining of indigestion, should be carefully studied for tuberculosis, and if nothing else develops the diagnosis, an x-ray should be made. The sputum may sometimes be most carefully examined, with negative results, and yet the disease may be marked. Bacilli are not found unless the tissue is broken down sufficiently for the pus to be infected. Night sweats are a late, not an early symptom. This is true also of hemoptysis. Most of us do not have an opportunity to study the patient as we should, for people fail to consult the doctor until their disease is quite far advanced.

I cannot quite agree that we are so far behind other states as Dr. Robin says. Perhaps we should be accomplishing more, but I am sure that a great step forward has been made in the last twenty-five years—both as regards diagnosis and treatment of tuberculosis.

W. O. LaMotte, M.D., (Wilmington, Del.): Nothing has so far been said of foreign bodies in the lungs with symptoms resembling tuberculosis. I know of such cases that presented every sign and symptom of tuberculosis, and were even sent to tuberculosis sanatoria. These patients had night sweats, evening rise of temperature, and pulmonary hemorrhage, and the only means of excluding tuberculosis was by x-ray study.

Albert Robin, M.D., (Wilmington, Del.): Early in the condition, a foreign body in the lung is not likely to be confused with tuberculosis, but in the later stages this might readily occur, because then a mixed infection is present. There was a mixed infection in the cases referred to by Dr. LaMotte which made the two clinical pictures almost identical. If the upper chest is free from any manifestation, the chances are that the condition is not tuberculous.

O. V. James, M.D., (Dover, Del.): No patient should leave the doctor's office without a careful examination. If we were more careful we should find more lesions and save more lives. In several cases where we found early lesions the patient has been sent away and has come back practically cured. It was Osler, I think, who said that it did not make much difference whether patients are sent to a high or low altitude, a hot or cold climate, but that they should be in a sanatorium, for otherwise in very few instances can they be induced to obey instructions.

Medical News

Deaths

Grant H. Gustin, M.D., of Troy; Jefferson Medical College, 1892; aged 59; August 1, of heart disease.

William G. Shields, Jr., 15-year-old son of Dr. and Mrs. William G. Shields, of Philadelphia; August 19.

James G. Watson, M.D., of Juniata; Philadelphia University of Medicine and Surgery, 1876; aged 76; August 17.

Thomas B. Johnson, M.D., of Towanda; Bellevue Hospital Medical College, New York, 1868; aged 83; August 12.

Robert M. Wallace, M.D., of Pittsburgh; Cleveland Homeopathic Medical College, 1900; aged 50; August 15, of heart disease.

Daniel M. Landis, M.D., of Perkasie; Hahnemann Medical College and Hospital of Philadelphia, 1889; aged 63; August 11, of heart disease.

Sylvester F. Hazen, M.D., of Hartstown; College of Physicians and Surgeons, Chicago, 1892; aged 67; in August, of cerebral hemorrhage.

Weber L. Gerhart, M.D., of Lewisburg; Hahnemann Medical College and Hospital of Philadelphia, 1887; aged 62; August 17, of heart disease.

Joseph H. Hoffman, M.D., of Pittsburgh; Jefferson Medical College, 1883; aged 68; August 16, at the Mercy Hospital, of bronchopneumonia.

John W. Dick, M.D., of Philadelphia; Jefferson Medical College, 1866; Civil War veteran; aged 82; August 29, of cerebral thrombosis and bronchopneumonia.

Harry N. Diamond, M.D., of Philadelphia; Medico-Chirurgical College of Philadelphia, 1909; born in Russia 1882; September 11, at Mount Sinai Hospital, of pleurisy.

Lawrence J. Davis, M.D., of Carnegie; Medico-Chirurgical College of Philadelphia, 1912; aged 41; August 8, at the Allegheny General Hospital, Pittsburgh, of diabetes mellitus.

George C. Kinard, M.D., of Lincoln; University of Maryland School of Medicine and College of

Physicians and Surgeons, Baltimore, 1885; coroner of Lancaster County; aged 66; September 13, of apoplexy.

Charles M. Swindler, M.D., of Pittsburgh; University of Pittsburgh School of Medicine, 1911; member of the Associated Anesthetists of the United States and Canada; aged 48; August 12, of carcinoma of the bladder.

Samuel B. Thomas, M.D., of Waynesboro; Jefferson Medical College, 1911; on the staff of the Waynesboro Hospital; aged 41; August 5, at the Union Memorial Hospital, Baltimore, of pneumonia, following an operation for gall stones.

Births

To Dr. and Mrs. Carl E. Ervin, of Danville, a daughter, August 9.

To Dr. and Mrs. Lester P. Fowle, of Lewisburg, a daughter, July 15.

To Dr. and Mrs. F. C. Brush, of Phoenixville, a daughter, on August 13.

To Dr. and Mrs. Stanley Barratt, of Wilcox, a son, Thomas Keating, September 11.

To Dr. and Mrs. J. K. Williams Wood, of Willow Grove, a daughter, Rhea Marguerite, July 15.

Engagements

Miss Catherine Hancock, daughter of Dr. and Mrs. Frank B. Hancock, of Philadelphia, and Mr. Karl Frederick Hutchinson, of Boston.

Miss Caroline Ashton, daughter of Dr. and Mrs. Thomas G. Ashton, of Wynnewood, and Mr. Morris Cheston, son of Dr. and Mrs. Radcliffe Cheston, of Chestnut Hill.

Miss Ann Stewart, daughter of the late Dr. George W. Stewart and Mrs. Stewart, and Dr. Jarold E. Kemp, son of Mrs. Anna C. Kemp, of Oakland, Md., and Cincinnati, Ohio.

Marriages

Miss Mary G. Desmond, of Philadelphia, to Dr. John C. Burns, of Wyncote, September 10.

Miss Helen Mildred McGuirk, of Overbrook, to Mr. Charles James Hoban, Jr., son of Dr. and Mrs. Charles J. Hoban, of Philadelphia, September 24.

Miss Margaret A. Brenholtz, daughter of Dr. and Mrs. W. S. Brenholtz, of Williamsport, to Reverend Herman F. Gohn, of Lock Haven, September 10.

Miss Mary Edwards Davisson, daughter of Dr. and Mrs. Alexander Heron Davisson, of Philadelphia, to Mr. Garrett Berry Magens, of Cynwyd, September 17.

Miss Mary Jane Gross, of Harrisburg, to Dr. Robert Denison, in Paris, September 8. Dr. Denison, who was chief resident physician at the Harrisburg Hospital during the past year, is taking a special course at the University of Vienna and will not return to this country until next summer.

Miscellaneous

Dr. H. Earl Twining, of Glenside, spent the summer in Europe.

Dr. Charles D. Hart, of Philadelphia, recently spent a month in Europe.

Dr. and Mrs. H. L. Hill, of Johnstown, are taking their vacation in Europe.

Dr. and Mrs. Burton Chance and family, of Philadelphia, returned from Europe on September 15.

Dr. William W. Blair, of Pittsburgh, has been elected president of the Pittsburgh Slit-Lamp Society.

Dr. and Mrs. Joseph C. Doane, of Philadelphia, sailed September 10th on the *Ile de France* for Paris.

Dr. and Mrs. William N. Stein, of Shenandoah, recently spent several weeks with relatives in Scotland.

Dr. and Mrs. John Paul, of Philadelphia, sailed for Europe August 4. Most of their time was spent in England and Scotland.

Dr. Edward B. Heckel, of Pittsburgh, has been elected president of the Pittsburgh Ophthalmological Society for the ensuing year.

Dr. Herbert T. Moyer, of Lansdale, has returned from a trip abroad, where he attended the Rotary convention and toured Switzerland.

Dr. F. T. Carney, of Johnstown, has resumed the practice of medicine after spending six months in New York City doing postgraduate work.

Dr. and Mrs. George F. Gracey, of Harrisburg, have gone to Europe for several months, most of which time Dr. Gracey will spend in postgraduate study.

Dr. William H. Kohler, of Milroy, was appointed county medical inspector for Mifflin County to succeed Dr. C. J. Stambaugh, of Reedsville, effective from September 1.

Dr. and Mrs. James A. Kelley, of Philadelphia, who were traveling abroad this summer, returned to their home recently after spending a short time at the Traymore in Atlantic City.

Dr. Edith MacBride has returned to her home in Sharon after spending the summer studying in Vienna. Her sister, Miss Rowena MacBride, attended the summer session at Oxford University.

Dr. George B. Miller, of Philadelphia, who was physician and friend of Robert F. Greenough, who died on August 8 in Philadelphia, received a legacy of $500 under the terms of the latter's will.

The Commission to Study the Laws Relating to the Healing Art of the Commonwealth of Pennsylvania will meet in the Clover Room of the Bellevue-Stratford Hotel, Broad and Walnut Sts., Philadelphia, November 16-17, at 10 a. m.

It has been announced that 319 candidates have successfully passed their State Board medical examinations taken at Philadelphia and Pittsburgh in July. The list of successful candidates shows about 8 per cent were women.

At the recent annual session of the American Academy of Ophthalmology and Otolaryngology, held at Detroit, Drs. Ross Hall Skillern and Luther C. Peter, of Philadelphia, were respectively president and and president-elect.

The 1927 annual conference of the National Committee for the Prevention of Blindness in coöperation with the Illinois Society for the Prevention of Blindness will be held in Chicago, Ill., October 13-15, with headquarters at Hotel Stevens.

Dr. Harry W. Albertson, of Scranton, has been appointed by Governor Fisher to succeed Dr. Adolph Koenig, of Pittsburgh, on the State Board of Medical Education and Licensure. Dr. M. V. Hazen, of Harrisburg, has been reappointed to the Board.

Governor Fisher appointed Dr. William G. Turnbull, Deputy Secretary of Health, as a delegate to represent Pennsylvania at the twenty-ninth annual convention of the American Hospital Association, to be held at Minneapolis, October 10 to 14.

Dr. Helen B. Todd, who has been resident physician at the South Carolina State Hospital for Women for two years, has been appointed to the post of associate director in the Health and Physical Education Department of Temple University, Teachers' College.

Governor Fisher has appointed as members of the State Board of Examiners for the Registration of Nurses Miss Esther J. Tinsley, Pittston, superintendent of the Pittston Hospital, and Miss Netta Ford, director of the Visiting-Nurse Association, York.

The Episcopal Hospital, Philadelphia, received an outright bequest of $5,000, as well as the residue of an estate of $33,000 and upward after bequests to kin by the terms of the will of Frances E. Reinhold, who died in the Germantown Hospital, August 11.

Dr. William A. Stecher, director of the department of physical education in the public schools of Philadelphia and for twenty-two years an official in the promotion of school health activities, following his voluntary retirement left recently to establish a permanent home in the Hawaiian Islands.

St. Francis Hospital, Pittsburgh, is planning to construct a $1,500,000 addition, which will increase its capacity to 850 beds. During sixty-one years of service, this hospital has never asked the public for funds. Now, however, in view of the urgent need for beds, an appeal will be made to the public to help build the addition.

On August 15, warrants for the arrest of twenty western Pennsylvania physicians, who were charged with selling prescriptions for liquor for beverage purposes, were sworn out in Pittsburgh by Prohibition Administrator John D. Pennington. The physicians named are residents of Erie, New Castle, Johnstown, Brownsville, Franklin, Monessen, and Uniontown.

A disused hospital in the populous down-town district of Edmonton, England, has been ordered burned down by the city health authorities, who fear that if the structure were razed in any other way disease germs might escape. About twenty-five years ago there was a terrible smallpox epidemic there, and since then the hospital has been used as a storage place for lumber.

The first physiotherapy clinic to be held in central Pennsylvania convened at the Polyclinic Hospital, Harrisburg, September 8. More than forty physicians from various parts of the State and county met to discuss the science of electrical treatment. Dr. Arthur LeRoe, of New York City, a specialist in surgical diathermy, addressed both the afternoon and evening meetings.

The Clinical Congress of Physical Therapy in conjunction with the sixth annual meeting of the American College of Physical Therapy will be held from October 31 to November 5 at the Hotel Sherman, Chicago. There will be a three-day school of instruction, a two-day program of addresses, demonstration clinics, small group conferences, round-table talks, and a full day of hospital clinics. For further information, address Dr. A. R. Hollender, Suite 820, 30 N. Michigan Ave., Chicago, Ill.

National pharmacy week will be observed October 9 to 15. The American Pharmaceutical Association and the National Association of Retail Druggists united in the movement to stimulate interest in trade. Colleges of pharmacy and retail druggists throughout the country will coöperate. Exhibits by 60,000 pharmacists picturing the development of pharmacy as a science are planned, and radio stations will broadcast addresses to be delivered before luncheon clubs, chambers of commerce, universities, and other organizations.

France has discovered that radium workers are heroes, and has just awarded the Legion of Honor to four of them; viz., Dr. Caillods, head of the radium section of Besancon Hospital, Dr. Degouy, chief of radium work at the Hôtel-Dieu of Amiens, Dr. Lacaille, radium chief on the faculty of the Hôtel-Dieu of Paris, and Dr. Paschette, radium director of hospitals at Nice. Dr. Caillods has lost three fingers of his left hand; Dr. Degouy's left hand has been amputated, and he knows his right hand must soon follow: Dr. Paschette's left hand and right fingers have been amputated; and Dr. Lacaille was compelled to abandon the work since 1912 because of his mutilations.

School medical inspectors of the United States and Canada will meet at the Sinton Hotel in Cincinnati on October 17. The morning session will convene at 9:30 o'clock. At 6 p. m. an informal dinner will be held at the Sinton Hotel, to be followed by brief speeches by several prominent American school physicians. Many matters helpful and interesting to school medical inspectors will be presented and discussed. All school physicians are invited to attend. Those planning to do so, or wishing further information, should write to Dr. William A. Howe, State Education Department, Albany, N. Y.

Dr. R. Tait McKenzie, of the University of Pennsylvania, was sculptor of the Scottish Memorial, tribute of Americans of Scotch birth or ancestry to Scotland's heroic service in the World War, which was dedicated in Edinburgh on September 6. The dominating element of the design is a bronze figure of a young Scot starting up, his rifle across his knees, to answer his country's summons to patriotic service. The background is a wall on which is carved in low relief a frieze representing soldiers and recruits hastening to join in defense of the ideals of self-government, justice, and human liberty. Many Philadelphians attended the unveiling, which took place in the peaceful West Princess Street gardens, opposite historic Edinburgh Castle.

The cordial relations of the physicians of America, North and South, and their colleagues of the Old World were further expressed by the appointment of American representatives to the editorial cabinet of the *Acta Dermato-Venereologica*, published under the direction of Dr. Johan Almkvist of Stockholm, Sweden. The nominees are Howard Morrow of San Francisco, Howard Fox of New York, J. B. Shelmire of Dallas, D. R. Smith of Toronto, Pardo Castello of Havana, and Herman Goodman of New York. *The Acta Dermato-Venereologica* publishes original contributions in French, German, or English within the fields of dermatology, urology, and social hygiene, and items of interest of persons or progress in these specialties. American literary contributions should be addressed to Dr. Herman Goodman, 18 East 89th St., New York City.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

ACTIONS AND USES OF THE SALICYLATES AND CINCHOPHEN IN MEDICINE. By P. J. Hanzlik, M.D., Professor of Pharmacology, Stanford University School of Medicine, San Francisco, Calif. Medicine Monographs, Vol. IX. Baltimore: The Williams & Wilkins Co., 1927. Price, $3.50.

This monograph of 200 pages covers the literature that has appeared on the salicylates and cinchophen since their introduction into medicine. After certain preliminary considerations presented in Part I, the bulk of the material is comprised in Parts II to V, dealing, respectively, with pharmacology, clinical aspects, toxicology, and methods of administration. All of these are thoroughly discussed and illuminated in so far as existing knowledge permits.

A somewhat novel chapter is that on salicyl edema. In the succeeding chapter, on circulation and respiration, it is interesting to note the statement that, as regards the action of large doses of salicyl and cinchophen on the circulation, clinical investigations with modern methods are practically nonexistent. Such inves-

tigations would seem rather urgently needed in view of the tendency to use large doses of salicylates in rheumatic fever, in which heart impairment frequently sets in insidiously.

In the clinical section the author concludes that the antipyretic action of salicylates and cinchophen in rheumatic fever is not specific. The relief in rheumatic fever is through simultaneous antipyretic and analgesic actions, "permitting comfort and rest while the joint symptoms disappear spontaneously and gradually." The author maintains that there is no good excuse for giving the salicylates or cinchophen intravenously.

The book will be of great value to those interested in the details of the action and uses of the group of drugs dealt with.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA. Third Series, Volume forty-eight. Philadelphia: Printed for the College, 1926.

The present volume runs true to form in following the high standard of this publication. The work is much abridged, as the College has ruled that papers shall be printed by title, with reference to the journals in which they are published. A general discussion of the papers as well as a bibliography and membership list are always of interest.

TIGER TRAILS IN SOUTHERN ASIA. By Richard L. Sutton, M.D., Sc.D., LL.D., F.R.S. (Edin.), Professor of Dermatology, University of Kansas. 115 original illustrations. St. Louis: The C. V. Mosby Company, 1926. Price $2.25.

This book records in personal diary form the experiences of Dr. Sutton and his party in their hunt for wild beasts. It proves that a doctor's avocation may be made very delightful and profitable to himself and to others. The book affords an hour of pleasant diversion in its perusal.

CERTIFIED MILK. Proceedings of the Nineteenth and Twentieth Conferences of the American Association of Medical Milk Commissions in conjunction with the Certified Milk Producers' Association of America. Nineteenth Annual Conference held at Atlantic City, N. J., May 25 and 26, 1925; Twentieth Annual Conference held at Dallas, Texas, April 19 and 20, 1926. Brooklyn, N. Y., 1926.

While the title of this book is given as "Certified Milk," it is really a combination of papers and discussions on all kinds of milk, in all forms, and is studied from all angles. As might be expected of such papers and discussions, written and participated in, as they were, both by the laity and members of the medical profession, many different viewpoints were expressed on each and every kind of milk; i.e., raw milk, pasteurized milk, sterilized milk, boiled milk, and certified milk, each having its advocates. Far from being helped in deciding upon the best milk to be used, one would rather tend to be confused after a perusal of these papers. After all, the geographic location and climatic condition of the place from which the milk is shipped and in which it is going to be used, the method of handling and transporting the milk, and the kind of people, especially children, by whom it is to be taken, are the factors of greatest importance in deciding the form in which the milk should be used. Great stress is laid on the care of the milk at the farm, but not sufficient stress is placed upon the care it receives in the home.

In our judgment, the principal value of such a book lies in the information it gives as to the methods of obtaining and preparing the different kinds of milk for the market, the relative value and advantage of each to be determined by the physician in each individual case. While much of the contents is contributed by laymen, it would seem that its greatest value would be to the physician, especially the general practitioner and the pediatrist, who alone would be qualified to interpret many of the statements made and to apply the information in a practical way, especially for infants and children, whose diet consists largely of milk in some form.

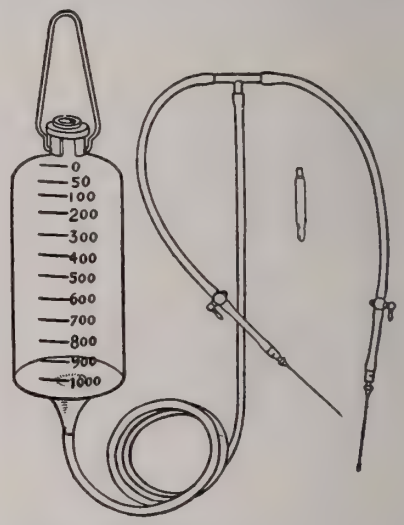
LARYNGEAL TUBERCULOSIS. By Frank Robert Spencer, A.B., M.D., F.A.C.S. Illustrations. Philadelphia and London: J. B. Lippincott Co.

This work is a summary of what is known about tuberculosis of the larynx. There is nothing in it but what a laryngologist should know. There is a list of one hundred references. The book should be of use to an internist, particularly, if he is interested in respiratory diseases.

HYPODERMOCLYSIS—DESCRIPTION OF A NEW APPARATUS

Owing to frequent difficulty of administration of hypodermoclysis with the usual equipment, the writer has been stimulated to devise a new set. This set is simple, efficient, and overcomes all the disadvantages of those hitherto employed. It is adapted to both subcutaneous and intravenous use; in fact, it may be used for intravenous salvarsan, glucose, or citrate transfusions. For intravenous work the writer has found the B-D Fordyce needles (assorted sizes) to be ideal.

The apparatus consists of a graduated Kelly infusion jar, with pointed end, 1,000 c.c., the proper lengths of rubber tubing to make connection, two stopcocks, two Luer Lok adapters, two Yale needles 19 gauge 2½", one



glass T tube and one glass observation tube. The rubber tubing is made of good quality gum rubber to withstand repeated boiling, and is of standard, uniform quality, thickness and caliber, with a diameter of ¼" and lumen of ⅛". A reserve supply of this tubing should be kept on hand to replace worn-out tubing. A short section of heavy rubber tubing is supplied for connection with ⅜" neck of gravity jar. The stopcocks should be attached as near the terminal ends of tubing as possible.

If the outfit is to be employed for intravenous work, remove the T tube and replace with glass observation tube, using one terminal rubber connection with fittings. If Fordyce needle is used, disconnect terminal Luer

(Concluded on page xviii.)

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(Concluded from page 46.)

Lok adapter, and replace with Luer-slip made for Fordyce needle.

If one chooses to employ the Buckstein metal thermos container for keeping the solution warm, he may substitute this for the plain jar. In fact, the tubing is adapted for use with any type of container. An electric pad applied around the jar will also help in keeping the solution warm. In intravenous infusions the rate of flow is not supposed to exceed 500 c.c. in 10 minutes.

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The outfit is manufactured by Becton, Dickinson & Co., Rutherford, N. J.—Augustus Harris, M.D., Brooklyn, N. Y., in *Long Island Medical Journal,* June, 1927.

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Symposium on Application of Radium and Radon *

SELECTION OF CASES SUITABLE FOR RADIATION

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NEW YORK, N. Y.

According to the manner in which they are manipulated, radium rays bring about, in certain neoplastic diseases, the following separate and distinct tissue effects:

(1) They impel the natural but overwrought defensive forces, always more or less present in malignancies, to renewed activity. This process is spoken of as an autolytic degeneration, but just how it is consummated is not quite clear. Nevertheless, such an effect is supported by abundant clinical and microscopic evidence. This action is employed for controlling the more susceptible lesions such as, for instance, the lymphomas, embryonal tumors (including the basal-cell epitheliomas), and round-cell sarcomas.

(2) When properly applied, radium rays cause the complete caustic destruction of diseased tissues, and this causticity is delivered to a greater extent, with less anatomic damage, than any other agent used for the purpose. This property of the rays is employed in connection with the more resisting neoplasms, such as the squamous-cell epithelioma.

(3) Taking advantage of the ray susceptibility of certain tissues and the resistance of others, it is possible to retard growth by checking cell proliferation, by causing an endarteritis in the lesion, and by blocking lymphatic drainage. This function of the rays is employed when dealing with the more refractory lesions, such as the neoplasms usually classed under the general head of fibroblastic tumors. It is, for the most part, used as a preliminary to surgical removal. With the latest form of deep radiation, the so-called "gram radium-element pack," this process may be made so effective that surgical removal is now not always necessary.

Some neoplasms, such as the neurosarcomas, are so extremely resistant to the rays that they are automatically rejected as radiation possibilities.

Having a full appreciation of what the rays may accomplish, it would seem a simple problem to classify neoplasms according to their ray susceptibility or reaction, and then select for treatment only those cases wherein the susceptibility or reaction can be adjusted to one or the other of the tissue effects mentioned. Such a plan is not without some value for, in the light of our present clinical findings, it is possible to classify lesions in a general way according to their inherent ray response. Extended experience has demonstrated, however, that such a procedure, in and of itself, is not conclusive. The virulence presented by malignant lesions of the same type is not consistent; consequently, seemingly hopeless cases may be accepted because the virulence, or degree of malignancy, is low. On the other hand, a lesion ordinarily rated as being very susceptible, may have such a high degree of malignancy that it can be accepted only because some measure of palliation is to be offered. If the ability to grade the various types of cancer according to their degree of malignancy were more generally known and practiced, much confusion regarding cases to accept or reject for ray treatment would be cleared up.

The ray-resisting power of the normal tissue harboring the lesion is another factor which must be given consideration. Normal tissues differ greatly in their resisting power, and it happens quite frequently that an otherwise susceptible lesion cannot be accepted because the normal-tissue host will not withstand the necessary dose. On the contrary, an apparently intractable lesion may just as frequently be accepted because of the fact that the surrounding healthy tissue will tolerate an excessive dose.

Then, too, there are certain general and localized contraindications which must be eliminated. This means that no case should be considered without a thorough general examination and, if possible, a minute inspection of the area in which, or on which, the radium is to be placed.

* Read before the General Session of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

It is evident that I, for one, do not consider it good practice to select cases solely on a basis of the supposed ray susceptibility. My tendency is toward case individualization, with the susceptibility of the lesion considered as a contributing and not as a deciding factor. I do, however, believe in following a definite routine in all cases. Such a routine should comprise the following points:

The Diagnosis. Ordinary methods, of course, are followed, a biopsy being made, if deemed wise, when clinical evidence is lacking. A much wider use of the x-ray than is generally practiced is employed in seeking for a possible extension. This is especially insisted upon in cases of cancer of the tongue, lower lip, breast, and prostate, and in suspected involvement of bone. Rays, either the x-rays or those from radium, are now being used where the diagnosis is doubtful and a biopsy impracticable. This is a sort of trial radiation that is designed to determine whether a lesion is or is not responsive. Such a procedure will ofttimes identify a tumor as being of a special type, and incidentally it will determine whether radiation is the agent of choice for the entire treatment or some other measure must be instituted.

If radiation is properly carried out, it should help rather than hinder operative procedure, provided the operation is done in a reasonable time after radiation. It is also to be noted that it is of no practical benefit to ray and then immediately institute surgery. The cumulative effect of the rays cannot possibly be secured under a period of about two weeks; therefore, operation should not follow until this time has elapsed.

Contraindications. Anemia is a contraindication to heavy or prolonged radiation, unless the anemia can be corrected by transfusion.

The presence of acute localized infection at or near the point of radiation is a temporary contraindication. If pus pockets can be drained, the case may be accepted for immediate treatment.

A terminal lesion in localities such as the tongue, esophagus, and rectum is contraindicated because, in such localities, the radiation, instead of offering some measure of palliation, only adds to the discomfort of the patient.

Many fibroids are much better treated surgically than by radiation, and should, therefore, not be accepted. The work of Clark and Keene of Philadelphia, Polak of Brooklyn, and Miller of New Orleans, on this particular phase of the subject, is recommended for careful study.

Susceptibility of Neoplasms. While it is possible to classify lesions according to their inherent ray response, it must be remembered that the normal susceptibility, if such a term is permissible, is frequently altered by many extraneous factors, and, while some of these factors may not materially affect one's judgment in accepting or rejecting cases, still they influence the technic of application and indirectly influence selection.

The term "early case" does not mean so much when cancer of the mucous membrane is encountered in a young patient. The cell type may even be placed as belonging to grade one or two; nevertheless, even in the earliest stages, the case is accepted many times only because palliation may be offered. On the other hand, an advanced case of the same type encountered in a patient well within or beyond the so-called cancer age may be accepted with confidence. Sarcomas of a certain structure seem to be better tolerated and therefore easier to control when occurring in a young patient. The age of the patient is, then, a factor to be considered in rendering sound judgment.

From my experience in observing men who have been exposed to enormous amounts of radium, I am reluctant to give prolonged radiation to a patient presenting noticeable discrepancies in the blood picture. If a low red and white count is present, transfusion is done before the patient is accepted. If the condition cannot be corrected, prolonged radiation should be used under protest, and then only because some measure of relief must be offered.

The Exact Location of the Lesion. It is astonishing what a difference it makes in one's judgment when a close study of the local blood supply and lymphatic drainage is made. Lesions situated in an area rich in blood supply and lymphatic drainage are much more difficut to handle—this without reference to the cell type—than lesions encountered in regions scantily supplied. This one point ofttimes dictates the choice between radiation alone or surgery alone or a combination of radiation and surgery.

When obliged to ray over thin bone or cartilage, one must be prepared at a later date to remove a possible necrotic area, and if it is impossible, because of anatomic relations, to pursue such a course, it becomes a question for serious consideration whether or not radiation should be undertaken.

It hardly seems necessary to mention the presence of constitutional disease and the effect thereof on the ray susceptibility of the lesion. Cases with such complications are accepted many times because radiation is, under the circumstances, the safest measure to use.

Alterations in the Normal-Tissue Host. What

has been said regarding alterations in the susceptibility of lesions applies equally to variation that will be encountered in the resistance offered by the normal-tissue host. In addition, the immediate host may have its normal resistance altered by long application over the area of an ice cap or hot-water bottle, adhesive tape or surgical dressings. Likewise, previous radiation, surgical procedures, snow, pastes, and the cautery will alter this resistance, to say nothing of slight differences that are encountered in various types of people and in different areas of the body.

The Form of Radiation Available. This also plays a part in deciding whether or not a case should be accepted. Sufficient radium should be had to meet the indications presented by the individual case, and cases should not be accepted unless an adequate amount of radium or radon is available. Furthermore, the radium or radon must be in such forms that the dose may be delivered in the most advantageous way.

Since the introduction of glass, gold, and platinum radon implants or seeds and the more recent use of large amounts of radium element in the form of packs (two to four grams of the element divided into twenty or more point sources of one hundred milligrams each, and arranged in an area of eight cm. diameter) for deep radiation through the skin surface, the field from which cases may be accepted has been greatly widened. With the use of this latter form of radiation, we now accept with more confidence those cases in which the near-by glands have become involved.

Limitations. Experience is a great teacher, and one of the things it has taught the radiologist is that radium rays do have limitations. Failure, however, is many times the fault of the operator and not of the agent. Accidents will happen. Experimental radiation is permissible, but for the most part, bad after-effects following radiation are due to the fact that the operator did not recognize limitations, or, perhaps he pushed his rays to caustic destruction, when autolytic degeneration or retardation of growth should have been his aim.

It must also be remembered that proper preparation of the patient for radiation and expert care of the lesion before, during, and after radiation are extremely important parts in the technic and, therefore, have somewhat to do with the radiologic judgment exhibited in selecting cases.

Nonmalignant Conditions Suitable for Radiation

Aside from malignancy, what other conditions may be selected for radiation? It is only when dealing with malignancy that we are justified in using the caustic property of the rays, but we may utilize the autolytic degenerative process, we may retard growth, and therefore, check a certain amount of activity, or rather overactivity of a gland; and furthermore, it is quite possible actually to convert certain very susceptible tissues into another kind of tissue. Taken as a whole, these possibilities create a wide therapeutic field from which cases may be selected. It follows that one competent to select cases must have a wide understanding of general as well as special pathology, in addition to a knowledge of rays and their physiologic action.

The ability to produce an autolytic degeneration opens up curative possibilities in many subacute and chronic dermatologic conditions—in tuberculous adenitis and in certain uterine fibroids. The assurance that certain tissue types will be favorably affected while other tissues will withstand the same dose makes radium rays a valuable agent in such conditions as flat-surface and cavernous angiomas, in cases where overactivity of a gland requires some restriction as, for instance, in toxic goiter. Intractable uterine hemorrhage (a condition for which the rays are perhaps the most reliable agent available) comes under this category, and in certain blood conditions wherein the function of the spleen is at fault, the rays will, in favorable cases, cause a remission of symptoms.

The power that lies in the rays may be manipulated to change certain loosely constructed and easily infected tissues into more or less dense fibrous tissues, bringing within the scope of the rays conditions such as simple enlargement of the prostate, enlarged and infected tonsils, nasal polypi, papillomata of the bladder, endocervicitis, etc. I do not mean to infer that radiation is the agent of choice in the conditions mentioned, but that in most of them it must now be given serious consideration. Consequently, the radiologist must be able to make a differential selection, and he is able to do this only if he is entirely familiar with other methods that might be used, and gives them his careful consideration.

Conclusion

I have tried to point out some of the basic principles involved in the selection of cases suitable for radiation, and to call attention to the fact that we have not reached the point wherein a fixed dose, such as the so-called carcinoma or erythema dose, is a wise therapeutic procedure. Sound judgment in selecting cases for radiation requires a thorough knowledge of the rays and their therapeutic action, together with a wide and clear understanding of anatomy, histology, and pathology.

THE USE OF RADIUM IN GYNECOLOGY

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PHILADELPHIA, PA.

The advent of radium marks a revolutionary epoch in gynecologic therapeutics since in certain functional and organic lesions of the female pelvis it has largely supplanted other forms of treatment. Radiotherapy has long since passed from the experimental stage where its immediate and remote results were open to question; on the contrary, accumulated experience and critical observation in the leading clinics of the world have definitely established its value, and it has become an indispensable remedy in modern gynecology. But experience has likewise demonstrated its limitations, and those who are familiar with its action have a profound respect for the potentiality for harmful effects which underlies its improper or ill-advised application. Too little emphasis has been placed upon the contraindications to radium in the treatment of benign uterine hemorrhage. There is a sharp dividing line between the types of lesions suitable for irradiation or operation, and the selection of the one or the other method of treatment depends upon accurate diagnosis and a definite knowledge of the relative merits and disadvantages of each in the treatment of a given lesion. An unbiased and trustworthy decision can be reached only by the surgeon who is skilled in both procedures.

Nearly fifteen years have elapsed since the use of radium was adopted by Dr. John G. Clark in his service at the University Hospital, and the prevailing views in this country regarding radiotherapy in gynecology are in no small measure an expression of his teaching. It was my good fortune to be associated with Dr. Clark during these years, thus sharing intimately his observations of the immediate and remote results in a large number of cases. Based upon a critical review of these observations, we have formulated certain rules which govern us in our decision as to which benign lesions should be subjected to irradiation and which to operation, and by strict adherence to these rules, our results have been eminently satisfactory.

In the treatment of myomata, we believe the following types fall into the domain of surgery rather than radiotherapy:

(1) Tumors Larger than a Three-Months' Pregnancy. Such tumors often present more or less extensive benign degenerative changes which are not favorably influenced by radium and are not uncommonly associated with adnexal or intestinal pathology which is difficult or impossible to detect prior to operation and requires surgery for its cure. Further, the vascular supply of these larger tumors is very limited, and irradiation may so impair their nourishment as to bring about rapid degenerative changes. An exception to this rule is found in those patients so weakened by excessive menorrhagia that operation is hazardous. Under such conditions, hemorrhage can be controlled by deep x-ray therapy. Under appropriate measures the patient's condition will rapidly improve, so that a subsequent hysterectomy can be done under favorable circumstances.

(2) Rapidly growing tumors suggesting sarcoma or actively progressing benign changes within the tumor, such as hemorrhage, necrosis, or liquefaction, are best handled surgically.

(3) Uncomplicated Tumors of any Size Giving Rise to Symptoms Other Than Abnormal Menstruation. The symptoms requiring treatment are, to a great extent, mechanical in origin, the result of traction or pressure. Hence their relief is dependent upon removal of the tumor. While disappearance of the tumor is a common occurrence following irradiation, the process is slow and excision is the better procedure.

(4) Tumors Associated with Pelvic Pain. Pain in association with a myoma is not uncommonly due to adnexal disease, especially a chronic inflammation, to degenerations within the tumor, to an adenomyoma, or to endometrial cysts of the ovary. Experience has taught us that radium may excite an acute exacerbation of an old inflammatory lesion, and is to be avoided under such circumstances. A tumor which has undergone such extensive changes within its substance as to cause pain is not favorably affected by radium, and should be removed by operation. We are of the opinion that adenomyomata do not react well to radium, although this statement is decidedly open to question. Because of their physical characteristics, endometrial cysts of the ovary may be impossible to differentiate from a myoma of the uterus, and they are commonly present as coincident lesions. Their cure is accomplished only by surgery. While it may be impossible to determine prior to operation the exact lesion responsible for the pain, we do know that whatever the pathology producing it may be, its treatment by operation is preferable to irradiation.

(5) Pedunculated Tumors, Whether Subperitoneal or Intrauterine. Radium is useless in the treatment of pedunculated subperitoneal tumors. It often has no effect on the bleeding of pedunculated intrauterine tumors, and its action may readily be followed by extensive necrosis of the tumor.

(6) Tumors Producing Hemorrhage and Complicated by Demonstrable Adnexal Pathology. From what has been said in a preceding paragraph, further elaboration on this contraindication is unnecessary.

(7) The Presence of a Marked Secondary Anemia in Association with Tumors not Giving Rise to Sufficient Uterine Bleeding to Account for the Anemia. Several such cases have come under our observation. In each, careful studies failed to demonstrate the cause of the anemia, and at operation, widespread necrosis of the tumors was found. Rapid disappearance of the anemia following operation warrants the conclusion that the necrosis was responsible for it.

(8) Tumors in Young Women. Radium in sufficient dosage to cause disappearance of the tumor will very likely produce a premature menopause and sterility. Minimal doses are justifiable and often beneficial in the treatment of the so-called functional hemorrhages in young women, but not, in our opinion, when a myoma is demonstrable unless some grave contraindication to operation is present.

(9) Tumors so Distorting the Uterine Cavity that Introduction of Radium Well Above the Internal Os Is Impossible. Under such circumstances, not only will the uterus be insufficiently irradiated, but subsequent contraction of the internal os incident to the fibrosis produced by the radium can readily occur, giving rise to hematometra or pyometra. Further, this condition precludes a thorough diagnostic curettage, so that an area of malignancy may easily escape detection.

(10) In Cases Where Differentiation Between a Myoma and an Adnexal Tumor Cannot be Definitely Determined. Even under the relaxation of ether anesthesia, this difficulty may arise, and is an indication for operation rather than irradiation.

(11) Myomata or Myopathic Hemorrhage in Nervous Women. A review of our cases shows that when full doses of radium have been used (and by this we mean 1,200 milligram hours), menopausal symptoms develop in about 65 per cent. Of these, 35 per cent exhibit very marked symptoms. Even the normal menopause presents such wide variations in its symptomatology that an accurate comparison with the postradium menopause is impossible, nor can we prophesy what the effects of radium will be so far as the menopausal manifestations are concerned. It is our belief that the menopausal symptoms, when they do develop after irradiation, are more acute than the normal, and that such exaggerated symptoms are more likely to follow in the highly nervous individual. Experience has taught us that operation is the wiser plan in the treatment of these patients, with conservation of one or both ovaries, a myomectomy if possible, or a supravaginal hysterectomy, attempting to leave sufficient endometrium so that a scanty menstruation may occur.

(12) In Cases of Radiophobia. Because of the publicity given to radium and its effects by the lay press and the ill-advised or prejudiced statements made by members of the medical profession, a fear of its application may be so strongly embedded in the minds of some patients as to warrant its rejection in favor of operation.

We believe that radium is the method of choice in the treatment of myomata not larger than a three-months' pregnancy during the fifth decade of life when excessive menstruation is the only symptom of pelvic pathology. A symptomatic cure can be expected in at least 90 per cent of such cases, and complete or partial disappearance of the tumor commonly occurs.

The functional menorrhagias are likewise ideal for radiotherapy. Those occurring at or near the climacteric age in which a full radium dosage can be applied are cured almost without exception by one or at most two applications. The adolescent menorrhagia which medication or curettage seldom relieves, is also favorably influenced by carefully regulated irradiation. There is a marked variation in the individual resistance to radium rays, so that in young women no standard dosage is possible. Here, the minimal dose, 200 to 300 milligram hours should be the rule at the initial application. Should this not suffice, a somewhat larger dosage may be given without fear of sterilization or permanent amenorrhea.

Our personal experience with radium and the x-ray in the treatment of functional amenorrhea has been insufficient to warrant an expression of opinion, although the reports from literature are encouraging. In a few cases of severe dysmenorrhea, where all other measures had failed, most gratifying results have followed upon irradiation.

From the foregoing remarks, it is evident that in our work, radiotherapy has by no means supplanted operative procedures in the treatment of benign uterine hemorrhage. The fact that over 65 per cent of our myoma patients are subjected to operation is ample proof of this assertion. Resort to surgery in such a large proportion of cases does not mean lack of faith in radiotherapy; on the contrary, increasing experience strengthens our belief in the value of the remedy.

A discussion of the relative merits of opera-

tion, irradiation, or a combination of the two in the treatment of cancer of the cervix is not within the province of this paper. Each has its advocates, but the trend is undoubtedly toward radiotherapy and away from operation. During our early experience with radium, only the more advanced lesions were subjected to it, but gradually its domain was increased until finally operation was discarded in its favor, and a hysterectomy for cervical cancer has not been performed in our clinic during the past four years.

In the treatment of cancer limited to the cervix, we believe a high cautery amputation with radium applied at the same sitting is the procedure of choice. A review of our stage-1 cases treated five years or more ago, made by my associate Dr. Robert A. Kimbrough, shows that when irradiation alone was used, the salvage was 37 per cent and that cautery amputation combined with irradiation gave a salvage of 42.9 per cent.

As a palliative measure in the more advanced stages of the disease there is no remedy comparable to radium. Even here, an occasional apparent five-year cure will result as shown by the fact that of our entire series, 13.7 per cent showed no evidence of recurrence. In about 60 per cent of such cases, the carcinomatous ulceration is eradicated and replaced by smooth scar tissue. In even a larger percentage, the hemorrhage and foul discharge are checked, in many never returning, in others appearing at varying intervals before death ensues. If radium offered nothing more than this palliation, its discovery would mark a great advance in that it brings at least temporary relief to a class of patients formerly cast aside as beyond the limits of medication.

Such satisfactory results are not universally obtained. In a few, radium seems to produce no effect whatever, or appears to actually stimulate more rapid spread of the disease. We are opposed to radium in the presence of widespread extension, particularly to the bladder or rectum. No good can be accomplished, and the application may be followed by severe pain or fistula formation, thus adding more suffering to the already miserable existence of these individuals.

In carcinoma of the fundus, operation is the procedure of choice. It is attended by a high percentage of cures, and the cells comprising the tumor are much more resistant to irradiation than those found in the majority of cervical cancers. Radium is reserved for a small group presenting some grave contraindication to operation. Of the cases thus treated, 20 per cent have remained free from evidence of disease for five years or more.

RADIUM IN DERMATOLOGY*

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Radium is used in dermatology in various applicators either as radium salts or emanation, with or without filtration, depending upon the type, location, and extent of the pathology to be treated.

Plaques contain radium salt (usually sulphate) spread over a flat metallic surface in a lead-free glass or combination varnish so designed that the beta rays may be utilized, pure gamma rays, however, being obtained from the same source by the intervention of suitable metallic filters. Plaques are standardized according to the radium-element content in relation to the surface area of the applicator. A full-strength applicator contains 5 mg. to a square cm., double-strength, half-strength, quarter-strength, and other applicators being correspondingly estimated. Plaques should never be placed in direct apposition with skin surfaces even when beta rays are desired, because secondary radiations from the metallic borders of applicators, the less penetrating beta rays, and in some applicators even some alpha rays will otherwise account for disagreeable end results that may be avoided by the intervention of a thin layer of rubber.

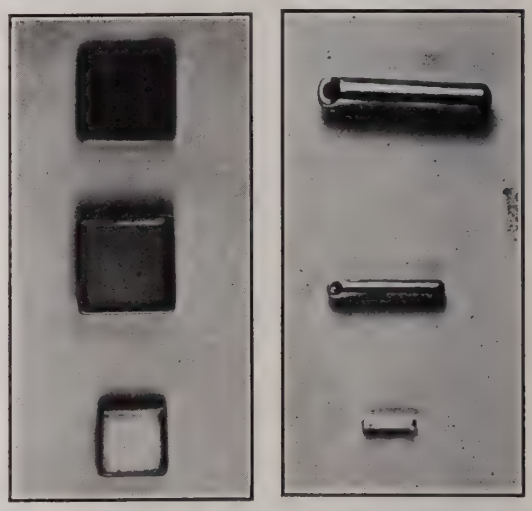

Fig. 1. (a) Full- and half-strength radium applicators and filters (10 mg.).
(b) Tubular type of radium applicators.

Tubes. Tubular applicators of soda glass containing varying amounts of radium sulphate are usually inclosed in silver tubes ½ mm. thick and these in turn in brass tubes 1 mm. thick. Tubes of 10, 25, 50, and 100 mg. are most frequently used, but by virtue of the versatility of plaques and needles they are preferable in dermatologic work.

* From the Department of Dermatology, University of Pittsburgh.

Needles. Needles of steel, platinum, or alloy containing various amounts of radium are designed for introduction into tumor tissue, thus utilizing all the radiation and obviating to some extent degenerative skin effects.

Emanation. Emanations offer certain advantages over the salts of radium. The danger of losing expensive applicators is obviated. Radium emanation seeds may be introduced into tissue and do not require removal; further, their size and shape facilitates their application where permanent applicators can be used only with the greatest of difficulty, as in the tongue. Seeds are standardized in terms of the curie unit, which is the amount of emanation that is in equilibrium with 1 gram of radium element. Thus the milligram hour of radium is in equilibrium with the millicurie.

Filters. By virtue of various filters, beta or gamma rays predominate in volume from a given applicator, and thus varying skin effects and clinical results are obtained. Beta rays having comparatively feeble powers of penetration find their particular field of usefulness in dermatologic lesions where depth effects are not necessary or desirable. On the other hand, when lesions beneath the skin are to be attacked the more penetrating gamma rays are indicated. In dermatologic work flat applicators are popular because they afford an opportunity to utilize either beta or gamma rays.

Standardization. In addition to accurate measurement of the radium content of applicators, it is necessary to standardize applicators according to their skin effects. Thus, half-strength flat applicators are applied to the forearm through rubber-glove filtration in 5-, 10-, or 15-minute applications to determine the beta-ray erythema dose, and various types of applicators with filters are applied at fixed distances to obtain the gamma-ray skin erythema. Such standardization is particularly necessary in dermatology; no therapy should be attempted until such data are available. These remarks, of course, apply to surface applications in contradistinction to instances in which either radium element or radium emanation is buried in diseased tissue, in which case the total irradiation is available without limitation by skin toleration. Such applications are for the greater part limited to the treatment of malignant lesions where very large amounts of irradiation are required. The dosage in each case is determined by the amount of radium, the type of applicator, the filtration, and the location and type of the pathology to be attacked.

Action of Radium and Dosage. While not all workers are in accord on the point, the bulk of evidence suggests that the effect of rays of different wave lengths are equivalent if absorbed in the same proportion, absorption, however, depending on the atomic weight and density of the irradiated tissue. Further, while perhaps not scientifically accurate, the action of radiation may be considered as stimulating in small amounts, inhibitory in larger, and destructive in massive dosage, cells that are undifferentiated, immature, or biologically or physiologically active being most readily influenced. With gamma rays, erythema is avoided except when the possibility of a chronic radiodermatitis is overshadowed by the urgency of the case, as in various types of malignancy. With beta rays, an erythema is often produced in ordinary therapeutics, but, probably on account of the superficial action of the rays, atrophy or ectasia occur with relative infrequency. Flat half-strength plaques screened with ordinary rubber glove to prevent secondary radiation from the metallic edges are applied for 5, 10, or 15 minutes and in some cases for 30 minutes, succeeding applications not being made until the reaction from the preceding application subsides. In the case of suberythema applications, they are made at approximately weekly intervals. On the other hand, gamma-ray applications require attention to additional factors. Dosage varies inversely as the square of the distance is increased or diminished, directly with the amount of radium, and to some extent with the grouping of the element (as in flat applicators, tubes, or needles). The erythema dose being established, various fractional or massive applications may be utilized, depending on the location and type of the pathology.

List of Diseases Treated With Radium

Acanthosis nigricans
Acne varioliformis
Actinomycosis
Angioma, cavernous
Angioma, senile
Angioma, strawberry mark
Blastomycosis
Carbunculus
Cheilitis exfoliativa
Cheilitis glandularis
Callositas
Cornu
Dermatitis, infectious eczematoid (localized)
Dermatitis exfoliative
Dermatitis papillaris capillitii
Epithelioma, basal-cell
Epithelioma, multiple benign
Epithelioma, prickle-cell
Erythema induratum
Furunculosis
Granuloma annulare
Granuloma fungoides (local)
Granulosis rubra nasi
Hodgkin's disease
Hyperidrosis
Hypertrichosis (rarely)
Intertrigo
Keloid
Keratosis
Keratosis follicularis
Kraurosis vulvæ
Leukemia cutis
Leukoplakia
Lichenification
Lichen planus
Lupus erythematosus
Lupus vulgaris
Lymphangioma circumscriptum
Lymphangitis, chronic streptococcic
Neurodermatitis
Nevus pilosus

Onychomycosis
Paget's disease
Pruritus (localized)
Psoriasis
Rhinophyma
Rhinoscleroma
Ringworm, eczematized
Rosacea
Sarcoid
Sarcoma, general types
Sarcoma, giant-cell
Sarcoma, kaposi
Scrofuloderma
Sporotrichosis
Sycosis, lupoid
Sycosis vulgaris
Synovial lesions of the skin
Tuberculosis orificialis
Tuberculosis verrucosa cutis
Verruca vulgaris
Xeroderma pigmentosum

It is to be noted that this list includes many conditions in which, under certain circumstances, radium is successfully utilized, but in which in most instances other agencies are preferred for various reasons. Thus, many conditions are treated with x-rays in preference to radium on account of the facility with which they may be

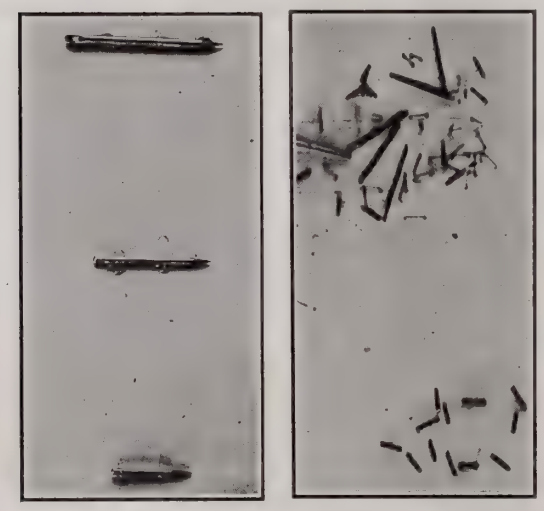

Fig. 2. (a) Needles of radium element.
(b) Glass and gold radium emanation seeds.

applied to large surfaces, and their economy of time and expense. Lichen planus on the general surfaces is treated with x-rays; on the mucous membranes radium is used. Lupus erythematosus at times responds well to beta-ray applications, but recently we have obtained better results by the administration of gold compounds. Leukoplakia often responds better to the cautery. It is further to be realized that in many instances radium is only an adjuvant, as in the case of actinomycosis, sporotrichosis, etc. The choice of the therapeutic agent necessarily varies in different cases. When radium is selected, the type of radiation, dosage, interval between treatments, etc., are determined by the type of pathology, its location and extent. Condensation of the subject forbids detail; suffice it to say that radium occupies a prominent place in the therapeutic armamentarium of the dermatologist. It is not essential to good practice, but is a valuable adjunct in the treatment of diseases of the skin.

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ABSTRACT OF DISCUSSION

Of Symposium on Application of Radium and Radon

WILLIAM H. CAMERON, M.D. (in closing): We now know many radiation limitations; consequently one is not qualified to accept cases unless he is familiar with these limitations. A great many bad results occurred because the operator did not realize, before he started radiation, just what he could accomplish in a given case. For instance, he may have used the caustic effect of the rays when all he could possibly accomplish was a retardation of growth.

Symposium on Surgery of the Spleen*

THE RÔLE OF THE SPLEEN IN HEALTH AND DISEASE

A Summary of Modern Views

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Many essayists discussing the functions of the spleen begin with the old apology about the medical student who "knew but unfortunately forgot" what everyone else would like to know; namely, the answer to the question, "What are the functions of the spleen?" I shall attempt to give a brief outline—chiefly from a hematologic viewpoint—of present-day knowledge and views concerning this subject.

Certain important functions of the spleen are based on the fact that this organ is one of the major sites of reticulo-endothelium. An understanding of the modern concept of this so-called reticulo-endothelial system[1] is, therefore, of prime importance. First, as to location: the cells and their cytoplasmic extensions, the reticular fibrils, which make up the system, are found in the spleen, liver, formative bone-marrow, lymphatic structures, pituitary and adrenal bodies, and more diffusely in certain connective tissues and in vascular adventitia. Reticulo-endothelial cells are of mesenchymal origin, and morphologically as well as functionally constitute a unit or system in spite of their widespread distribution. The formation of mere lining membranes, which is characteristic of differentiated endothelium in general, is subordinated in the reticulo-endothelial system to its other properties and functions, which may be tabulated as follows: First hematopoietic, second phagocytic, and third metabolic. Under the phagocytic and metabolic func-

* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 5, 1927.

tions are grouped the mechanisms of red-cell destruction, bile-pigment elaboration, the storage of lipoid and protein substances, and finally participation in the processes of immunity by bacterial phagocytosis. A fourth property of the reticulo-endothelial system is of extreme practical importance; namely, the marked compensatory and regenerative powers of its cells.

The spleen's first functions, therefore, are those of its constituent reticulo-endothelium. Its other functions are determined by its hemolymph-node nature, its reservoir mechanism, and possibly by some ductless-gland mechanisms as yet unproved.

The recent work of Barcroft[2] has been illuminating and fruitful. He has proved most convincingly that the spleen is an important reservoir of concentrated red cells and hemoglobin, under neuromuscular control. As Barcroft has shown, the spleen actively contracts and expels its store of red cells (equivalent to an emergency transfusion of 200 to 300 c.c. of blood in humans) on stimulation of the splenic nerve, after exercise, trauma, shock, hemorrhage, anorexia, and carbon-monoxid poisoning. It dilates actively on stimulation of the depressor trunk of the cali vagus and when there is a markedly increased burden thrown on the heart. The protective and compensatory mechanisms here displayed are obvious. Yet the spleen is not a vital organ.

The changes produced by splenectomy in experimental animals and splenectomy for splenic trauma in otherwise normal humans are of physiologic interest. Immediately following the operation there is a well-marked increase in the circulating leukocytes and blood platelets, together with a variable decrease in the coagulation time of the blood, and an increase in the resistance of the red cells to hypotonic salt solution.[3] Soon a moderate anemia develops, and a decrease in bile-pigment elimination is demonstrable, together with compensatory hyperplasia of the reticulo-endothelium in bone marrow, liver, and lymph nodes. During this stage so-called blood crises may be observed at times, in which Howell-Jolly bodies and nucleated red cells appear in showers, and platelets and young granulocytes are markedly increased in the peripheral blood. After some months, in most instances, an equilibrium is established, and the blood returns practically to its presplenectomy stage. The only permanent demonstrable result of splenectomy in normal experimental subjects, therefore, is the loss of the emergency reservoir of red cells and hemoglobin, which loss renders the animal more vulnerable to such dangers as shock, hemorrhage, anoxemia, and carbon-monoxid poisoning. Barcroft has shown that in carbon-monoxid poisoning the presence or absence of the spleen may be a life- or death-determining factor.

Among other splenic functions (less well established and decidedly controversial) may be mentioned: a supposed metabolism-inhibiting substance, the removal of which by splenectomy induces increased nitrogen metabolism[4] and increased basal metabolism[5]; a cholesterol-stimulating hormone[6]; a hematopoietic stimulant[7] and the reverse, a hematopoietic-inhibiting substance[8]; a factor favoring immunity to tumors; and finally a mechanism for the active reduction of methemaglobin to hemoglobin.[9]

We shall now turn briefly to the domains of pathology and therapeutics for further insight into splenic functions. There is a group of diseases (to be discussed later in this symposium) in which splenectomy produces, in most instances, a marked improvement or even *clinical* cure. One of these diseases is the congenital form of hemolytic ictero-anemia. Here we find an inconstant anemia with bilirubinemia (so-called hemolytic jaundice), erythrocytes showing increased fragility in hypotonic salt solutions and at the same time evidencing active regeneration (reticulocytosis), together with an enlarged spleen which is hyperplastic and engorged from excessive phagocytosis of red cells. Which is cause and which are effects?

The recent work of Orahovats[10] indicates that the spleen in experimental animals acts more as a "differential filter" retaining these unusually fragile cells within its pulp rather than actually causing their excessive fragility. His work, following the lead of Barcroft, thoroughly invalidates the methods previously employed in comparing the quality of splenic-vein blood with the blood of the general circulation. These workers point out the fact that the blood obtained, as heretofore, by splenic-vein puncture is usually nothing more nor less than ordinary venous blood, for the simple reason that the splenic pulp is not in the line of flow and does not contribute its quota of selected red cells to the splenic vein except under specific stimulation. These facts, together with the failure of splenectomy in hemolytic ictero-anemia to bring about a complete and permanent return to normal of the erythrocyte hyperfragility, leave one in considerable doubt concerning the thesis that the spleen is the sole cause of this disease, in spite of the sometimes brilliant results of splenectomy. The same kinds of problems present themselves in the relation of the spleen to purpura hemorrhagica. Here, again, the laboratory evidence of cure rarely holds out more than a few months, except in cases subjected to splenectomy before the dis-

ease had continued long enough to indicate whether it would run a spontaneously self-limited course or a prolonged, recurrent, indefinitely chronic course. Usually, in well-established chronic cases, the platelet count, after a striking post-splenectomy rise, gradually falls to decidedly subnormal levels, in spite of continued clinical improvement. There are but few exceptions. Furthermore, in the acute fulminating cases of purpura hemorrhagica, splenectomy has seemed only to hasten the fatal outcome.

The relation of the spleen and splenectomy to Banti's disease and to so-called splenic anemia is even less clear-cut. Clinical results, however, justify the operation, especially in early cases of Banti's disease of the thrombocytopenic type.[11] Perhaps the spleen here may be viewed as a sort of "focus of infection" in an "up-stream" relation to the liver and the rest of the systemic circulation. This pathologic focal-infection rôle of the spleen gains further credence from the reputed benefits of splenectomy in certain intractable cases of chronic malaria and syphilis with splenomegaly. This view is also substantiated by statements to the effect that more frequently positive blood cultures may be obtained following adrenalin injections than by the usual technic. Of course the adrenalin supposedly causes the spleen to contract and empty itself into the circulation. This procedure has been recommended as of diagnostic help, especially in cases of suspected bacterial endocarditis with persistently negative blood cultures taken in the ordinary way.

In pernicious anemia, splenectomy is going out of fashion, although it has been employed with fair results in the hemolytic type of the disease. The astonishingly effective treatment of this disease given us by Minot and Murphy has immediately superseded all other methods, and perhaps points a way to more satisfactory and less drastic therapeutic measures for some of these other blood dyscrasias in which splenectomy is still the most effective procedure. Merely as an example of such possibilities you may be interested to learn that, in the hematologic clinic at the University of Pennsylvania Hospital, we are planning a clinical trial of the Minot-Murphy liver régime in cases of chronic purpura hemorrhagica. There are good reasons to hope for favorable results in blood-platelet stimulation, as the work of Minot and his collaborators would indicate.[12]

In Gaucher's disease the lipoid-protein-storage function of the spleen is tremendously exaggerated. Splenectomy is recommended in early cases. One is tempted to draw an analogy between the perverted metabolism of Gaucher's disease and that of amyloid disease, and accordingly is not astonished by a report indicating the value of splenectomy in prevention of the latter.[13]

By way of summary permit me to remind you that the spleen is an important repository of reticulo-endothelium; that this tissue is widely distributed elsewhere in the body and possesses marked regenerative and compensatory properties which are called into activity by splenectomy; that this fact is part explanation at least of the failure of splenectomy to maintain a permanent blood effect either in health or disease. We may conclude, however, with the surgically comforting thoughts that the spleen is the only surgically accessible, nonvital, major unit of the reticulo-endothelial system, and that it is also possibly the source of one or more yet-to-be-discovered blood-regulating internal secretions—all of which gives to this organ a status unique in the surgical therapy of various blood disorders.

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SPLENECTOMY IN THE ANEMIAS OF CHILDHOOD*

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Since the early history of medicine, when it was determined that the removal of the spleen in man was not seriously detrimental to normal life and at times perhaps beneficial, there has been a marked tendency to suggest or perform splenectomy whenever enlargement of the spleen occupied the foreground in any unusual disease picture. This tendency had undoubtedly been

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increased by the mystery which enshrouded the knowledge of splenic function. Fortunately, in recent years the functions of the spleen have been studied by more accurate methods of research, and the results of splenectomy in various animals, including the monkey,[1] have shown many of the functional changes which are involved in the normal animal by this operation.

The relatively obscure disease pictures which center about the enlarged spleen have been of little assistance in the determination of splenic function, except where splenectomy, as in the case of hemolytic jaundice, has given the physiologist some slight clue. In addition, the functions of the spleen are shared by so many other organs that often in the case of a severely diseased spleen compensation for its loss or change of function has already occurred before splenectomy, and the alterations observed after operation are slight or transient, and therefore misleading.

Since the advent of the newer knowledge of the spleen by improved laboratory methods, there has been an increasing effort on the part of clinicians to determine, in cases of splenectomy, the extent of altered function and the possibility of compensation for its loss before operation, as well as the cause of functional change. This effort is particularly important in the anemias of infants and children associated with marked splenomegaly, for the following reasons:

In the first place, Gross[2] has shown that the size of the entire spleen and of its various parts follows a descending curve as the age of the individual advances; that it is more active in the early years of life, and decreases markedly in activity with age. Also, splenectomy at an early age eliminates the largest storehouse for readily available hemoglobin in the body (Barcroft[3]) and therefore increases the danger of death from sudden anoxemia, if such a situation should occur. This would presumably be of little importance in the fibrotic spleen of the adult, as of course also in the severely diseased or fibrosed spleen of the infant or child.

Luckhard has shown that splenectomized kittens lost weight and soon died—a situation quite different from the adult animal after the same operation. The emergency function of the spleen in infancy for forming erythroblasts and leukocytes should also be kept in mind when splenectomy is under consideration, since it is generally felt that to a great degree the spleen relieves the lymph glands and the bone marrow of normal and pathologic stress and strain. Certainly these relief functions increase in importance as we approach infancy. For example, Takagi[4] has shown that the usual anemia which follows splenectomy is of much greater duration in young puppies that in adult dogs, presumably due either to the loss of the normal splenic stimulus to the bone marrow, or possibly to the loss of the spleen's own hemopoietic activity. The increased resistance of the red cells to hypotonic salt solution in the same puppies after splenectomy also is more marked than in the adult.

These experimental data show that the removal of the spleen at an early age should be undertaken only after full consideration of its physiologic importance in this period of life.

However, several well-known types of anemia with splenomegaly in early life have responded favorably to splenectomy, despite the fact that the causes of most of them and the alterations in physiologic function after the operation have not been thoroughly studied or understood. Gaucher's disease is quite typical of this group, and though very rare, it is nevertheless a very distinct entity. Characterized in childhood by secondary anemia, leukopenia, a slow progressive increase in the size of the spleen, which is smooth and nontender, a slightly enlarged liver, palpable lymph glands, and microscopic invasion of the spleen, liver, lymph glands, and bone marrow by the large cells with small eccentrically placed nuclei, its progress has been stopped entirely by splenectomy in the early stages. An excised lymph gland will often give diagnostic evidence. In the later stages the results of splenectomy have been unfavorable.

In familial hemolytic jaundice when sufficiently severe to cause symptoms, we find the best example of the beneficial effect of splenectomy. After operation the red cells attain their usual resistance to hypotonic salt solution, the reticulocytes are reduced to a normal number, the normoblasts disappear from the blood stream, the urine loses its urobilin, the anemia disappears, as also do the digestive disturbances. The origin of, and the spleen's relation to the lowered resistance of the red cells is still a debatable question.

In the enlargement of the spleen which occurs in congenital syphilis and chronic malaria, experimental work has shown that the spleen may harbor organisms when the rest of the body is free. For this reason alone splenectomy at times appears to be justifiable, when medical treatment has been of little avail. Such cases have shown improvement after splenectomy.

In the last few years, beginning with the work of Kaznelson,[5] splenectomy has been performed successfully in numerous cases of idiopathic thrombopenic purpura. Over one hundred cases have been reported by various writers, the ma-

jority being chronic, since the operation has rarely been successful in the very acute type of the disease. The basis for such a procedure lies in the facts shown by Henn,[6] Krumbhaar,[1] and others that the coagulation time decreases and the platelet count increases after splenectomy in normal animals. The difficulty in thrombopenic purpura has been attributed to a faulty stimulation of the bone marrow by the spleen rather than to platelet destruction by the spleen.

Under the terms "von Jaksch's anemia" and "Banti's disease" or "splenic anemia" we find grouped a variety of signs and symptoms which deserve more definite explanation in the terms of abnormal bone marrow, liver, and spleen physiology. The characteristic development of Banti's disease, ending in jaundice, ascites, gastro-intestinal hemorrhages, and extensive fibrosis and enlargement of spleen and liver, can frequently be checked by splenectomy in the early stages. Rosenthal[7] has suggested two types on the basis of functional changes in the spleen and bone marrow—the thrombocytopenic and the thrombocythemic—operation being of value only in the former where the hemorrhages are more marked, whereas in the latter the tendency to thromboses, on account of excessive platelet formation, was only increased by operation, since platelet "crises" occur at this time. This classification undoubtedly has the recommendation of being based upon the study of platelet function, which has received too little attention in the former studies of Banti's disease. In the late stages of this disease improvement will often follow splenectomy, but here again the functional alteration which affects the spleen will already have affected the other units of the reticulo-endothelial system, so that operation will merely lock the door after the horse is stolen. However, it is not a common disease of childhood, and is practically never seen under the age of ten years.

In the syndrome termed von Jaksch's anemia, after explaining most of the cases on the basis of secondary anemia, chronic infections, rickets, malnutrition, osteosclerosis, unusual leukemias, lymphogranulomata affecting the bone marrow, etc., we still have a few unexplained cases, which, in order to be pigeonholed comfortably under a name, are termed von Jaksch's anemia. It is such cases which medicine must group in terms of abnormal physiology of spleen and bone marrow, and not consign them to a man who never described the disease which bears his name. Splenectomy may prove of value in certain of these obscure conditions after we have learned more about them, but at the present time indiscriminate operations have done more harm than good. In justice to the name it must be said that we have no other better term to apply, despite various recommendations in the literature; therefore, the solution must lie in gradually picking out the separate units until the conglomerate disease no longer exists.

Sickle-cell anemia, a disease of red-blood-cell formation and structure in mulattoes, is undoubtedly far more common than our present statistics show. Up to the present time, to our knowledge, only four such patients have undergone splenectomy, two of them in what was apparently an early stage of the disease, the other two probably in a late stage. The first two are reported as showing improvement after operation. The last two showed little change, in one the spleen amounting to nothing but a few small fibrous nodules, and in the other the spleen being very small and fibrotic. Here, again, we may infer that in the early stages before splenic function has been taken over by the remainder of the reticulo-endothelial system, splenectomy may be of some value, but this can be decided only by future studies.

Hospitalization of unusual cases for thorough blood studies, including careful platelet counts, reticular counts, van den Bergh tests, urobilin determinations in urine and stools, bone-marrow punctures, x-ray of bones, repeated blood smears, etc.—these are the means of deciding concerning the abnormal physiology of the spleen.

Splenectomy is definitely contraindicated in pernicious anemia, the leukemias, polycythemia, the acute infections, Hodgkin's disease, hemophilia, and probably in von Jaksch's anemia.

We have had three splenectomies done on patients in this clinic since 1925.

Case 1. T. C., male, Italian, 1¾ years old. The mother had had one miscarriage prior to the birth of this boy. The birth history was negative. He had been breast-fed for twenty months, but solid food had also been given after the fourth month. The development had been normal until the onset of the present illness, but the child had not had much fresh air. He has had measles twice, but no other diseases. At sixteen months of age it was noticed that he began to lose weight; that he was very irritable, and that the color of his skin became yellow.

He was admitted to the University Hospital in June, 1926, in a somewhat somnolent condition, but was easily aroused. Physical examination was essentially negative except as follows: He was undernourished and below the normal height for his age. The skin showed a yellow, waxy pallor. A blowing, systolic murmur was heard over the heart, without any increase of the area of dullness. The abdomen was distended. The liver was extended to a line with the unbilicus, and the spleen almost to a line with the anterior superior spine of the ilium. Both spleen and liver were hard, but presented a smooth surface.

The urine was normal. Two Wassermann reactions were negative, and the blood count showed: red blood

cells, 2,680,000; nucleated cells, 15,900 (of which 9 were nucleated red blood cells); hemoglobin, 32 per cent; differential—neutrophils, 48 per cent; lymphocytes, 35 per cent; leukocytic mononuclears, 1 per cent; eosinophils, 5 per cent; basophils, 5 per cent; myelocytes, 6 per cent. Polychromatophilia, anisocytosis, and poikilocytosis were excessive, and stippling was well marked.

On the 4th of July the patient was given a transfusion of 275 c.c. of citrated blood, and on July 6th the total nucleated cells were 26,000 and the hemoglobin 61 per cent. He was given another transfusion of 245 c.c. of citrated blood on July 11th, and on July 18th the blood count showed: red blood cells, 3,400,000; nucleated cells, 11,200; hemoglobin, 58 per cent; myelocytes, 18 per cent. Ultraviolet-ray treatments were started at this time and continued throughout the summer.

On August 16th, the red count was 3,150,000; total nucleated cells 13,500 (of which 2 were red nucleated cells), hemoglobin 55 per cent. The myelocytes had disappeared, and the platelet count was 140,000. Polychromatophilia was markedly diminished, but poikilocytosis and aniscocytosis were still well marked. The child's general condition had not improved. He was still lethargic, and the spleen, which had become smaller at first, was again increasing in size. On August 25th, in view of the failure to improve, the enlargement of the spleen, and the slight reduction in platelets, we decided upon splenectomy. After the operation a transfusion of 100 c.c. of citrated blood was given.

He made a good recovery from the operation, and on October 7th the blood was essentially the same as before the operation, but on October 12th the number of nucleated red blood cells had increased to 47. From that date until July 20, 1927, numerous counts have been made, of which the lowest and highest are as follows: red blood cells, 2,160,000 (Dec. 5, 1926), 4,000,000 (May 6, 1927); total nucleated cells, 15,600 (Dec. 27, 1926), 91,000 (July 6, 1927); hemoglobin, 45 per cent (Jan. 30, 1927), 61 per cent (July 20, 1927); nucleated red blood cells, 64 (May 6, 1927), 498 (October 27, 1926).

In April and again in July of this year he has received a blood transfusion. On July 20th the red blood count showed 3,600,000; total nucleated cells, 30,000, of which 83 were nucleated reds, and hemoglobin 61 per cent. In this patient it is obvious that the spleen was still functioning when removed, in spite of its size and greatly increased density. The results furnished additional evidence against the removal of the spleen in so-called von Jaksch's anemia.

Case 2. E. T., female, 7 years old, Jewish. The family history and birth history were negative. The child had been breast-fed for one year, and was given a general diet afterward. She enjoyed fairly good hygienic conditions. She was vaccinated in infancy, and was given diphtheria toxin-antitoxin two years ago. She had had measles, chickenpox, and mumps; otherwise her health had been good.

She was admitted to the University Hospital with a history that two months previous, blood had been found on her pillow one morning. This occurred every day for four weeks and at frequent intervals since then. During the past week many purpuric spots had appeared on the legs and arms, and fine petechiæ on most of the trunk. The mouth appeared to be normal. The liver and spleen were not enlarged. The red blood count was 3,690,000, the white blood count 12,500, hemoglobin 50 per cent, and platelets 34,000. The coagulation time was 4½ minutes; the bleeding time 8½ minutes. The Tourniquet test was negative.

The urine was normal, except for an occasional red blood cell. From the day of admission until August 13th the platelet count never rose above 32,500, and at one time was as low as 10,200. During this time she was given roentgen-ray treatments over the spleen, but when the leukocyte count fell as low as 6,500 these were abandoned. Throughout these two months there were fresh outbreaks of petechiæ and purpuric spots, but no free hemorrhages, and the child's general condition was growing worse.

On account of the persistence of the low platelet count and the purpuric phenomena and the failure of any improvement following roentgen-ray treatments, a splenectomy was done on August 13th.

By September 17th the platelets had increased to 256,000 and the white blood cells to 9,900, with a normal red blood count and a hemoglobin of 80 per cent. The bleeding time had decreased to 1¾ minutes, and the child was discharged from the hospital in good condition.

On March 4th the platelets still numbered 280,000, the bleeding time was 2½ minutes, and except for an occasional ecchymosis following a blow, there had been no history of purpura. When seen recently by Dr. Fitz-Hugh a normal platelet count was maintained.

This patient undoubtedly was benefited by a splenectomy, but it is too soon to give an absolute prognosis as to the ultimate results.

Case 3. F. D., male, aged 6 years, was a patient at the University Hospital from March 8, 1925, almost continuously until June, 1927, suffering from sickle-cell anemia. His case was reported in detail by Dr. Walter Blair Stewart in the *American Journal of Diseases of Children*, July, 1927. In this case a splenectomy was done, purely as an empirical measure, as no reports could be found in the literature. The apparent results of operation have been nil and without any effect either upon the anemia or morphology of the red cells.

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THE INDICATIONS FOR SPLENECTOMY

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The history of splenectomy is most interesting, and when a series of papers dating back a number of years are read, one notes, as in the other fields of surgery, the change from indiscriminate to selective indications for its performance. The average mortality has decreased with better technic. Thus, Johnston (1908) reported the cases on record up to 1908 as showing a mortality of 27.4 per cent, but it was 18.5 per cent in the years 1900 to 1907. Recently W. J. Mayo (1926) reported the splenectomies done at the Mayo Clinic from 1904 to 1926, with a hospital mor-

tality of 10 per cent. During the five-year period from September 1, 1922, to September, 1927, splenectomy has been done twenty-one times on my services in the University and Misericordia Hospitals, with one death—a mortality of 4.8 per cent.

Earlier, the indications for splenectomy included a large number of conditions badly grouped and often vaguely termed "hypertrophy of the spleen." Today, the indications are more sharply defined, and sufficient is known of the end results to place the operation on a sound basis.

Trauma

My experience is entirely confined to rupture of the spleen from trauma, two cases having come to operation during the past five years, both recovering. In both of these cases and in the earlier ones, as I remember them, the injury was significant. The patient was run over by an automobile, thrown in a sledding accident, fell against the curb, etc. In other words, there was established the possibility of a severe trauma to the left side. Such patients are seen in a state of shock with severe abdominal pain and rigidity. A blood count reveals high leukocytosis. No reliance can be placed upon the hemoglobin or red-cell count. Pain in the left shoulder is significant, but I do not place much reliance on shifting dullness. I have had most trouble in differentiating from an injured left kidney, and last year opened the abdomen for ruptured spleen in the case of a girl who had fallen off a horse, only to find that the injury involved the kidney. There was no blood in the urine in this case.

Some years ago I operated on a young man who had been injured seven days previously. He was suffering from pain, and had a 50-per-cent anemia. The abdomen contained many blood clots and some fresh blood. The spleen was ruptured. Similar cases have been reported from time to time in the literature, and patients with severe injury to the left side of the chest or abdomen should be kept under close observation for two weeks. Elevation of temperature, leukocytosis, left-shoulder pain, and loin pain may be considered sufficient indications for exploratory operation three or four days after the injury. A fresh bleeding may prove fatal.

Splenectomy is not easy in cases of ruptured spleen, and good anesthesia is essential. Donors should be tested immediately, and transfusion done at the conclusion of the operation and repeated in a few days.

Acute and Chronic Infections

There is an uncertain indication for splenectomy in patients who have a rather acute, long-continued infection, such as osteomyelitis or septic endocarditis, and a secondary splenomegaly. The hope is entertained that removal of an extensive source of secondary infection may give the patient a chance to overcome the primary focus. Mayo (1926) advises that care should be exercised in deciding upon operation, and if possible, operation should be postponed until sufficient immunity is established to render it relatively safe.

Splenectomy may be indicated for the splenomegaly of syphilis, tuberculosis, or malaria. In 1921 I removed a large spleen from a boy eleven years old. He had congenital syphilis which earlier had been treated with arsenobenzol. He has shown constant improvement.

Splenic Anemia (Banti's Disease)

There is great confusion regarding the possible occurrence of Banti's disease as a separate entity. A complete discussion will be found in a paper published by Moschcowitz in 1917. Apparently we diagnose this complex when the splenomegaly is accompanied by an anemia without distinct peculiarities, with gastric hemorrhages, and in its later stage with liver cirrhosis and ascites. It seems probable that some toxic agent acts first through the spleen and then on the liver, whereas in primary portal cirrhosis the reverse is the case. As Mayo states, "the condition of the spleen with its thrombophlebitis, atrophy of the pulp cells and widespread infiltrations with connective tissue, was remarkably like that found in the spleens removed in the septic and the syphilitic groups." There is no reason why we cannot use the term splenic anemia to cover the entire complex, and include within it certain known causes such as malaria, syphilis, kala-azar, etc., as well as those anemias with splenomegaly in infancy and adult life which conform to the type clinically and pathologically, but in which the etiologic factor is obscure.

These chronic splenomegalies with anemia may be treated medically if this is rational, or by x-ray or radium, but sooner or later most of them will require surgical removal of the enlarged spleen. If we work backwards we note from the published results of splenectomy that the best results are obtained when there is little liver damage; hence any lengthy delay is unwarranted. This is particularly true if hematemesis occurs. Even in the later stage of typical Banti's disease, when ascites is present, the mortality of operation will not be over 25 per cent, and one can expect satisfactory results in about half the cases that recover. Of the total cases, early and late, the mortality of operation at the Mayo Clinic was 11.4 per cent.

In this group we have done splenectomy four times. One patient died from the operation. One young colored man was admitted with a history of hematemesis and splenomegaly dating back five years. The Wassermann test was negative. His blood count showed hemoglobin 40 per cent, red cells 3,250,000, leukocytes 21,000. The cases seemed typical. Splenectomy (June 7, 1924) was followed by apparent complete recovery, and one year later the hemoglobin was 75 per cent, red cells 4,200,000, leukocytes 7,000. He "did a song-and-dance act" and was hard at it.

Another case, in a girl of 27, was diagnosed splenic anemia because she had anemia of a secondary type (hemoglobin 33 per cent, red cells 3,000,000) and a leukopenia (4,200) together with splenomegaly, and no definite etiologic factor was apparent. Splenectomy (April 15, 1927) was followed by recovery, and four months later she reported constant improvement.

There was one patient with von Jaksch's disease from Dr. Gittings' service who was operated upon a year ago. I think he is considered as not showing any improvement. Some observers believe that this is an infantile form of Banti's disease in which is found "a moderate leukocytosis, due to the higher values of leukocytes in the normal blood of infants" (Mayo).

Cirrhosis of the Liver

The favorable results of splenectomy in the later stages of Banti's disease have led to its performance in portal cirrhosis, mainly to lessen the load on the diseased liver by decreasing the amount of blood coming to it. Probably omentopexy is a safer procedure. Certain cases of biliary cirrhosis are marked by chronic jaundice, enlarged spleen, and no infection of the biliary tract. At the Mayo Clinic, fifteen cases of this type have had splenectomy, with only one death and considerable improvement in a number of the patients.

Some years ago I performed both splenectomy and omentopexy for a portal cirrhosis, but the patient died from hemorrhage.

In this series we have two cases of cirrhosis. One was in a man 23 years old who for three years suffered stabbing abdominal pain and the development of a large spleen. He had a moderate secondary anemia. He lost fifteen pounds and became a "muddy color." The liver and spleen were greatly enlarged. At operation, the liver was large and cirrhotic, but not of the portal type. Splenectomy was performed. The man made a good recovery and I understand improved for a time, but later he failed and died about two years after operation. The details are wanting.

The other case was most interesting. This patient, an Italian male, 52 years old, was first seen in November, 1925, at which time anemia, jaundice, and a large liver were outstanding. The symptoms suggested stone or possible malignancy, and at operation (November 9, 1925) the gall bladder was drained for cholecystitis and cholangeitis. He improved, but again lapsed, and a splenomegaly became apparent. A laparotomy was done June 9, 1926, and a cholecystoduodenostomy and splenectomy were performed. He has steadily improved. On September 30, 1927, he was seen, and I consider him clinically well. He has neither jaundice nor anemia. The blood tests showed that he was not a hemolytic-icteroanemia type and hence we have put the case in the biliary-cirrhosis group.

In certain disorders of the red blood corpuscles splenectomy is indicated—in many cases of pernicious anemia, in chronic purpura hemorrhagica, and in hemolytic ictero-anemia.

Pernicious Anemia

This is a hemolytic anemia; hence in 1913 Eppinger and others proposed splenectomy as a means of removing the principal hemolytic factor. Following this announcement many splenectomies were done, but too much was expected, and with a high percentage of relapse a note of pessimism appeared and the operation fell into disfavor. But Krumbhaar in 1923 stated that the pendulum had swung too far against splenectomy. He considered the operation advisable in certain cases of relatively recent onset, with a fair blood picture, signs of an enlarged spleen, and increased hemolysis. At the Mayo Clinic the operation was discontinued for a time, but Griffin and Szlapka (1921) investigated the end results of 50 cases operated upon in the Mayo Clinic prior to 1917, and found that in at least one-third the average life of the patients is greatly prolonged by splenectomy, and in about ten per cent the prolongation is sufficient to lead to the hope that cures may result in some cases.

W. J. Mayo (1921) thinks that the most favorable cases are those which are early and have active hemolysis, and those which are somewhat atypical. Hitzrot (1922) considers that a palpable spleen, and an increase of the vital staining cells are important indications, whereas the operation is contraindicated in elderly individuals, in cases with spinal-cord symptoms, and in aplastic cases. However, it is probable that the newer methods of treating this disease will distinctly lessen the indications for splenectomy.

I have operated on six patients during the past five years. All recovered from the opera-

tion, but four have since died. One patient is living and well five years after the splenectomy. He was first seen in October, 1922, suffering from typical pernicious anemia (hemoglobin 43 per cent, reds 1,490,000, whites 5,900). Transfusions were given and arsenic administered, and improvement occurred (hemoglobin 60 per cent, reds 2,260,000). On November 15, 1922, splenectomy was done and the appendix was removed. A transfusion was given. Convalescence was complicated by an axillary abscess. On discharge, the blood picture was hemoglobin 53 per cent, reds 2,160,000, whites 12,150. By February, 1923, he was feeling greatly improved, and had gained twenty pounds. He was not seen again until September 30, 1927. He enjoys good health and is working in a garage. His blood picture, however, destroys any hope of cure. The hemoglobin is 24 per cent, the reds 1,370,000, and the leukocytes 11,600. The red cells show marked variation in size and shape. To each 100 leukocytes counted, there is an average of 16 normoblasts. Many poikilocytes are present. I am arranging with his physician to have a so-called "liver diet" started, and it will be interesting to note the results.

The other living patient is a woman aged 57 who was admitted with weakness and anemia. She was of a typical lemon-yellow color. The blood picture was typical, and one count showed a hemoglobin of 37 per cent and red cells 2,310,000. The indirect van den Bergh was 3.2 units. Splenectomy (October 12, 1926) was followed by an astonishing improvement; twenty-five pounds were gained in six months. She is still well, one year after operation. The gall bladder contained stones, and was removed.

Purpura Hemorrhagica

In 1916 Kaznelson suggested splenectomy as therapeutic procedure for this disease. Recently, a great number of papers have appeared, one of the best being that by Whipple (1926), and the term generally employed now is *thrombocytopenic purpura hemorrhagica.* This disease is characterized by hemorrhages, petechiæ, weakness, and anemia from the loss of blood. The blood picture is typical: a low platelet count, normal coagulation time, prolonged bleeding time, failure of clot retraction, appearance of petechiæ in the skin below a tourniquet applied so as to shut off the venous but not the arterial blood. The disease must be differentiated from hemophilia, acute aplastic anemia, and hemolytic jaundice.

Splenectomy gives brilliant results in the chronic type, 83.5 per cent of the cases collected by Whipple being considered cured. Griffin and Holloway (1925) found that while splenectomy brought about changes which arrested gross hemorrhages, yet the pathologic blood picture persisted in some of these cases, indicating "that the finer mechanism of coagulation requires a complex readjustment on the part of the organism, which may or may not become complete and permanent." On the other hand, death resulted in seven of the eight cases of the acute variety submitted to splenectomy. In this type, transfusion should be persisted in until the bleeding stops and the patient is built up, after which splenectomy is advisable to prevent a recurrence. The operation is on a sound basis and is founded on the destruction of the platelets in the spleen, the remaining reticulo-endothelial system not taking part in the thrombocytolysis. In the acute form the entire system is out of order, splenectomy is ineffective, and the profound vascular disturbance makes the operation extremely hazardous.

I have been fortunate in having two cases of chronic purpura with splenectomy in this series. The first was a little girl seven years old who for four months had suffered from gum bleeding and multiple petechiæ. The case was typical, and the platelets varied between 10,000 and 30,000. Splenectomy was done on August 13, 1925. Eleven days later the platelets were 100,000. I examined her on September 30, 1927, and found her absolutely well. She goes to school and has never had hemorrhages since operation. The other patient was a young girl of 26 who for 15 years had gum bleeding, petechiæ, and marked menorrhagia. She was treated for the latter many times. Her blood picture was typical, the platelets averaging 5,000. Splenectomy was done on November 7, 1925. Two days later the platelet count was 160,000. On December 6th it was 108,800. This patient also is clinically cured, apparently. Dr. Fitz-Hugh tells me that her platelet count is still low, but this, I believe, is in line with the observations of others.

Hemolytic Ictero-anemia

Chronic hemolytic icterus is characterized by splenomegaly, jaundice, absence of bile pigments in the urine, presence of color in the stools, and a diminished resistance of the red cells to hemolysis. Therefore, in itself it is very easily differentiated from obstructive jaundice; but in about 60 per cent of the cases gall stones have been encountered, and confusion may result if the stones reach the common duct. Both the congenital and acquired forms may occur, the latter being more acute and severe. It is probable that in this disease there is both some "fault" in the manufacture of the blood cells and a dis-

turbance in the function of the spleen. Splenectomy is brilliantly curative, although in many cases the fragility of the red blood corpuscles persists. We must remember Mayo's caution, not to operate during a "crisis of deglobulization."

I have had two typical cases in the past five years, both in young girls. In one of these cases the history dates back fourteen years when the patient was three years of age, at which time she was studied in another hospital with a diagnosis of von Jaksch's anemia. I saw her first when she was about 12 years old, and there was a marked splenomegaly with anemia. During the next five years the mother refused operation. Finally splenectomy was done, June 12, 1926, at which time the hemoglobin was 60 per cent, the reds 3,350,000, and the whites 10,400. The Wassermann test was negative, and the van den Bergh showed a delayed direct and 3.0 units indirect. She made a perfect recovery, and now, September 30, 1927, is perfectly well and working. The second case was that of a young girl aged 19, with a typical picture, the jaundice being well marked. The indirect van den Bergh was 12.8 units, and the direct delayed. Splenectomy was done January 7, 1926. On September 30, 1927, the patient complained of some constipation and loss of appetite, but otherwise was well. The blood count was perfectly normal, there being no abnormality of the erythrocytes except a slightly increased fragility. The indirect van den Bergh reaction was 1.8 units and this, of course, correlates with the increased fragility.

Sickle-Cell Anemia

This interesting type of a hemolytic anemia was first described, I believe, by Herrick in 1910. It is a disease exclusively affecting negroes, and is characterized by anemia, joint pains, ulcers on the leg, sometimes jaundice, and the occurrence of crescentic distortion of the red corpuscles. It is supposed to be a hereditary anomaly. Hahn and Gillespie (1927) believe that the "spleen probably plays a secondary rôle in the excessive hemolysis of active sickle-cell anemia and is damaged in the process, passing through stages of enlargement to ultimate atrophy." They report the first case on record of splenectomy for this condition. The patient became symptomatically well, but the sickle-cell trait was not affected. Before this paper appeared, Gittings suggested that we remove the spleen from a patient with sickle-cell anemia then in his wards. The patient was an octoroon, five years old. He had a history almost since birth of anemia, fever, joint pains, and gastro-intestinal disturbance. Splenectomy was done September 28, 1926. The spleen was small, adherent, and distorted. One year later his condition is fairly good but the sickle cells persist.

Splenomyelogenous Leukemia

In 1908 Johnston stated that splenectomy is unjustifiable in leukemia, the mortality of the reported cases being 87.7 per cent. W. J. Mayo (1926) reports that they have removed the spleens from 41 patients with splenomyelogenous leukemia with 2 deaths (4.9 per cent). This is a sufficient comment upon the improvement in surgical technic.

Splenectomy is performed on the assumption that it will effect a reduction in the white cells and an increase in the red cells. In addition, the patient is relieved of a burdensome weight. Always, the spleen should be treated first with radium or x-rays, and when the maximum reduction in size has been attained, splenectomy can be done with but little risk. So far, improvement only has been noted, and Mayo considers the best indication to be the atypical form in younger persons.

I have had only one experience, and that recently. A woman aged 42 dates her illness from 1924, when she noted splenomegaly and began to have bowel bleeding. In 1925 there were 100,000 leukocytes counted, 22 per cent of which were myelocytes. The spleen was quite large. She was given x-ray treatment by Dr. Pendergrass, and after the cessation of this treatment the leukocytes were 37,000. A number of months elapsed, but the spleen increased in size and she was admitted to my service in August, 1927, at which time the leukocytes numbered 15,500 and the myelocytes 65.5 per cent. Splenectomy was done August 18, 1927, the spleen weighing eight and one-half pounds. On August 24th the leukocytes numbered 15,000 but the myelocytes had fallen to 7 per cent. On September 30, 1927, the patient seems constantly improving. The case presents many interesting features, but sufficient time has not elapsed to make a final report.

Hodgkin's Disease

The spleen is frequently enlarged in this disease, and sometimes the superficial glands are so slightly involved as to lead to the assumption of a splenic type. The splenomegaly dominates the clinical picture. Except for the relief afforded by the removal of the large mass in the abdomen, it is probable that little else will be attained by splenectomy. I have done splenectomy only once for this condition. The patient was a boy, seven years old, who in June, 1923, was observed with typical cervical Hodgkin's disease. After x-ray

treatment the neck was dissected out. He was fairly well for a year, except for febrile attacks, when the splenomegaly was noted. This became burdensome, and on December 8, 1924, the splenectomy was done. The spleen contained typical nodules, and the abdominal glands were involved. He was transfused several times, but the anemia progressed and death occurred three months after operation.

Miscellaneous Indications

Tumors and cysts, Gaucher's disease, and wandering spleen are additional indications. I have never had an example of these.

Technic of Splenectomy

The technic of operation is comparatively simple, and difficulty is encountered only if there are dense adhesions containing large thin-walled veins. Good anesthetic relaxation is essential. As a rule, a simple left-rectus incision is sufficient, but occasionally in the case of a large, tightly adherent spleen it may be necessary to add a cross cut outward from the upper end of the incision and along the costal margin. In one case in this series I did the splenectomy through a transverse incision. When the spleen is rolled out of the wound, care should be taken to avoid undue force. I usually work the upper pole loose down to the fundus of the stomach by careful use of the hand, and then divide the attachments below to the colon and kidney fascia. In the case of a small spleen, the pedicle may be clamped and ligated in one section, but in a large spleen the pedicle is spread and is best ligated in several sections. In this case care must be taken that when the clamps perforate the pedicle no veins are injured.

If there is oozing from separated adhesions in the space above, it is best controlled by hot packs and "snaking sutures" (Mayo). The fundus of the stomach and the tail of the pancreas must be identified, and not grasped by the clamps. Precaution should be taken to cover raw spaces when possible. I have had two cases of intestinal obstruction follow a short time after splenectomy for rupture of the spleen, the small intestine being caught by adhesions near the diaphragm. Fortunately both patients survived the second operation. In cases of rupture and in others where there has been considerable hemorrhage, blood transfusion should follow splenectomy immediately.

The convalescence is apt, in my experience, to be marked by a moderate febrile reaction lasting for many days.

Table of Cases

Initials	Sex	Age	Diagnosis	Splenectomy date	Follow-up date	Result
R. O.	M.	47	Pernicious anemia	11/15/22	9/30/27	Unimproved blood; clinically well
M. K.	F.	63	Pernicious anemia	10/12/23	5/10/24	Unimproved; death 5/10/24
A. D.	F.	47	Pernicious anemia	10/13/23	12/10/23	Unimproved; death
L. W.	F.	66	Splenic anemia	10/24/23	10/25/23	Operative death, 10/25/23
F. H.	M.	23	Cirrhosis	4/12/24	8/15/26	Some improvement; death 8/15/26
H. F.	M.	8	Rupture	5/10/24	12/2/25	Well except for cough
C. W.	M.	38	Splenic anemia	6/7/24	5/29/25	Perfectly well
W. J.	M.	55	Pernicious anemia	10/7/24	5/19/25	Unimproved; death 5/19/25
P. L.	M.	8	Hodgkin's disease	12/8/24	3/15/25	Unimproved; death 3/15/25
A. D.	M.	12	Rupture	1/12/25	9/27/27	Perfectly well
E. T.	F.	7	Purpura hemorrhagica .	8/13/25	9/30/27	Perfectly well
L. S.	F.	26	Purpura hemorrhagica .	11/7/25	9/30/27	Clinically well
E. R.	F.	32	Pernicious anemia	11/14/25	2/13/26	Unimproved; death 2/13/26
M. R.	F.	19	Hemolytic jaundice	1/7/26	9/30/27	Clinically well
V. S.	M.	52	Cirrhosis	6/9/26	9/30/27	Practically well
E. M.	F.	17	Hemolytic jaundice	6/12/26	9/30/27	Clinically well
T. C.	M.	2	von Jaksch's disease ...	9/25/26	9/30/27	Improved (?)
F. D.	M.	5	Sickle-cell anemia	9/28/26	9/30/27	Improved (?)
L. M.	F.	57	Pernicious anemia	10/12/26	9/30/27	Clinically well
M. G.	F.	27	Splenic anemia	3/29/27	8/3/27	Clinically well
A. M.	F.	42	Splenic leukemia	8/18/27	9/30/27	Improved

Summary

21 cases, one operative death—48 per cent .....
20 recovered, 6 subsequent deaths—30 per cent ..... } 33.3 per cent

Conclusion

Splenectomy offers considerable promise of cure in those diseases in which the spleen suffers

a dysfunction which is mainly responsible for the break-up of the red blood corpuscles. When the spleen is suspected of harboring toxic agents which at first are general but later are apparently localized to this organ favorable results may also be expected. In all other cases only improvement can be expected, but often the relief from the heavy spleen makes operation worth while. The mortality at present should not exceed 10 per cent of the total operations, but will vary with the selection of the cases.

ANESTHESIA IN SURGERY OF THE BLADDER*

Practical Points in Modern Technic

(Based on 150 Consecutive Cases)

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In presenting this brief paper, it is not our intention to make the extravagant claim that all operations on the urinary bladder should be performed under local anesthesia. Under the ideal circumstances of a generally healthy patient, a good anesthetic medium, and a careful administrator, inhalation anesthesia is a very safe procedure.

There is, however, another and very well-defined picture, which is commonly presented to those of us doing urologic surgery. During the past twenty-five years, we have noted the fact that patients suffering from urinary disorders do not present themselves until they are seriously inconvenienced by their disease. This is also the experience at all large clinics, as noted by Judd,[1] Lowsley,[2] Crowell,[3] and others. Our patients are frequently suffering from repeated acute retention or the evidence of a chronic urinary obstruction, at times extending to the pyelovenous backflow, so splendidly described by Hinman[4]. Frequent trigonal hypertrophy also causes a marked toxemia at times, and complicates the picture, as noted by Watson[5].

In a large proportion of these cases, the renal function is at a low ebb, while the blood urea is comparatively high. An examination of the urine shows considerable albumin, pus, and casts. Associated with these conditions, but beyond the urinary tract, is usually the evidence of the cardiorenal syndrome, as manifested by emphysema, arteriosclerosis, hypertension, and myocarditis. The aforementioned facts are those which led Laewen[6] to his pioneer work in local anesthesia of the urinary organs.

Aside from the picture just sketched we have to remember the advanced age of many of these patients, and their greatly diminished reserve force. This must also influence us in the choice of anesthesia. In perhaps no other class of patients will the baneful effects of narcosis be so pronounced as happens at times in maladies of the urinary tract. Having noted the principal indications for the use of local anesthesia, you will naturally say, "What are its contraindications?"

There are but one or two factors which militate against its use. They are: first, the absence of one who is experienced in the use of this technic; second, the speed mania, as local anesthesia is in no wise compatible with haste.

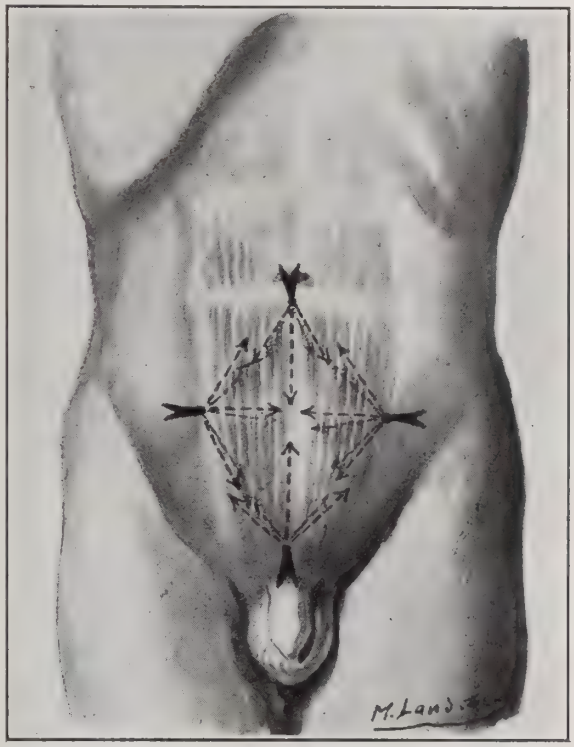

Fig. 1. Suprapubic Field Block, Type 1.

It is extremely difficult, in fact well nigh impossible, except in a few instances, to anesthetize against pulling and tearing. Great care and gentle handling of the tissues will aid greatly in opening the gates of success.

Historical Notes

The early history of local anesthesia in bladder operations is somewhat nebulous. It, however, seems to have been placed on a scientific basis by Dr. Hackenbruch[7, 8] of Wiesbaden in 1897. This was followed by its use in the clinics of Willms, Narath, Bier, Braun, Eiselberg, Illyes,[9] and others. In the Illyes clinic at Budapest, all bladder operations have for years been performed under local anesthesia. Schnetzer[10], of Chicago, but formerly of the Budapest clinic, in

* Read before the Northern Clinical Society, New York City.

his 1,690 urologic operations under regional anesthesia includes many bladder lesions. In this country we are now giving much attention to vesical procedures, particularly by Farr,[11] Barringer,[12] Lowsley, Kollischer,[13] Alfred Jones[15] of Chicago, Labat,[14] Meeker, and others.[15]

Anesthetic Drugs

Many substances have been used in bladder anesthesia, the most notable of which are the following: Alypin the Bayer product, long recommended by Bier in Europe and Lewis in America. Cocain is so highly toxic that we shall merely mention it in passing. Tropacocain of Giesl was for a time extensively employed in Germany. Eucain was given impetus by the recommendation of Wossidlo, senior, and by Legeau. It has also passed into history. Stovain of Forneau was greatly extolled by Johnesco of Bucharest. Labat and the author like neocain.

Choice of Anesthetic

In considering the choice of a local anesthetic, we have an exceedingly useful guide in the following postulates: (1) The substance must be less toxic than cocain. (2) The agent must not cause the slightest irritation or tissue injury. (3) The agent must be soluble in water, and the solutions stable and possible of sterilization on boiling. (4) It must be possible to combine the agent with suprarenin. (5) It should be able to penetrate rapidly.

Method of Administration

We have for some time been employing neocain, and the excellent syringe and needles of Labat. How the anesthetic solution should be prepared has caused much discussion. Laewen, after conducting a series of experiments, believed that the addition of sodium bicarbonate prolonged the anesthesia by an increased diffusion of the fluid. Many of our prominent workers believe that a small amount of suprarenin should be added, in addition to the bicarbonate. Braun, Labat, Illyes, Willms, Kappis, and others are included in this group. On the other hand, Lowsley,[16] Mayer,[17] and Schmidt[18] hold that suprarenin increases the toxicity.

The convenient tablets placed upon the market by pharmaceutical houses have found much favor. In this connection, however, Brock[18] has recommended that the sodium bicarbonate should be kept separate, as by so doing the solutions do not deteriorate so rapidly. Our belief, based on a large experience, convinces us that best results are obtained from a freshly prepared one-per-cent solution of neocain. Some of our associates, however, believe that better results are obtained with larger amounts of a one-half-per-cent solution.

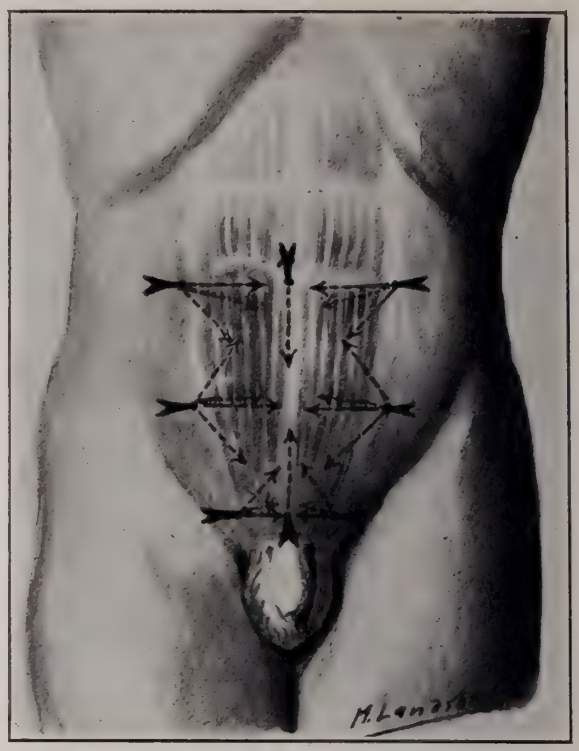

Fig. 2. Suprapubic Field Block, Type 2.

Preliminary Medication

Our preparatory treatment is essentially that of other urologic procedures. About forty-eight hours before operation, the patient is given thirty grains of sodium bicarbonate. If the gastro-intestinal tract is disturbed, he is given a five-per-cent solution of the drug by rectum. Twenty-four hours before operation, the patient receives a purgative, and he is allowed to have as peaceful a night as possible before the operation. Should the renal function be not good, the operation is postponed.

Preliminary narcosis by the use of morphin and scopolamin has now been discontinued, as we find it is seldom necessary, except in the highly nervous individual. This type of patient, however, is not well suited to regional anesthesia.

Anesthetic Methods

In bladder surgery we may apply the anesthesia in the form of: (1) Terminal or infiltration anesthesia. (2) Field block. (3) Sacral anesthesia, usually combined with one of the former. (4) Spinal anesthesia.

Close observation of many cases has convinced us that it is to the best interest of the patient to have the infiltration as far as possible from the large nerve centers. With this idea we

have endeavored to utilize as far as practicable the terminal and field-block methods. Spinal anesthesia is extensively used, notably by Chute,[20] Babcock,[21] Rytina and Tolson,[22] and others, with excellent results. We have, however, not been so fortunate, nor have our associates, in the avoidance of unpleasant incidents in connection with spinal anesthesia.

Operative Procedures

Cystoscopy and Intravesical Manipulations

We are told by many surgeons that the passage of a cystoscope causes no more difficulty than the use of a sound, and should give the patient little or no pain. No urologist, however, can appreciate such an instrumentation unless he has been cystoscoped himself. The procedure is annoying to say the least, even in the hands of the most competent operator.

For the passage of the cystoscope we should always resort to the more simple anesthetic methods first. In ordinary cystoscopy it is our custom to apply a four-per-cent neocain solution to the anterior urethra, retaining it by means of a Cunningham clamp for about ten minutes. The deep urethra may also be treated with a four-per-cent solution via a soft rubber catheter. Where it is necessary to resort to intravesical or ureteral manipulations through the cystoscope the technic of Crowell[23] will be found of great value.

There is, however, a group of cases in which we are unable to anesthetize either the bladder or the deep urethra by local applications. This is notably the case in some strictures of the deep urethra, in tuberculosis, and in neoplastic pathology. To accomplish our purpose here we may resort to the use of either caudal or spinal anesthesia. The great simplicity of caudal anesthesia and its apparent freedom from any ill effects or sequelæ, ranks it as the preferable form of anesthesia. With a proper technic and a little patience it rarely fails. Our methods are similar to those of Hartel, Laewen, and Rhinehardt. We, however, slightly elevate the hips, instead of utilizing the genupectoral position, as noted in our previous articles.

Suprapubic Cystotomy

In practically every operation involving opening of the bladder by the suprapubic route, we resort to the use of local anesthesia. In experienced hands the lack of postoperative shock and the absence of any irritating effects on the urinary apparatus, particularly the kidney, is sufficient justification for its use. We employ several forms of local anesthesia, depending largely on the nature of the operation, as follows:

Infiltration Anesthesia. After proper preparation of the patient, we make a small wheal by inserting Labat's number-one needle, with the bevel edge up, into the corium about one inch below the umbilicus in the median line. Following this step, we introduce a needle (at least 8 cm. long) directly into the wheal, and proceed to follow it with a series of the same, down to the symphysis pubis. If one is accustomed to the use of a shorter needle, the method of Farr will be found of great value. The essential points of the Farr technic are that the wheals are made from beneath. Our experience would seem to indicate that equally good results would be obtained both ways.

Upon completion of the skin anesthesia, we introduce the needle vertically in the middle line, at three or four points, saturating the lateral muscular tissues rather liberally by fanwise injections. The tissues down to and including the peritoneum are treated in a similar manner. Just above the symphysis the needle is passed directly down in the middle line into the space of Retzius, where about ten c.c. of the anesthetic is deposited.

The above technic is applicable to simple cystotomies, as in the first stage of a suprapubic prostatectomy, the removal of a stone, without complications, etc. Where it is necessary

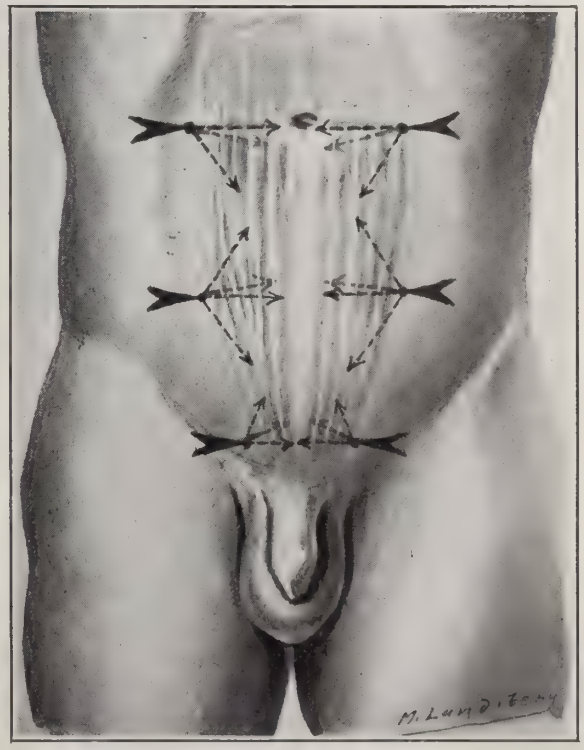

Fig. 3. Suprapubic Field Block, Type 3.

to resort to more extensive dissections with much retraction of the tissues, the field block will be found of great utility.

Field Block. This method is well adapted to partial cystectomy, and the diverticulum operations as proposed by Lower and others. The following procedures are also readily accomplished; operations on the lower end of the ureter, through the bladder, or by the method of Edwin Beer.[24] Removal of tumors of the bladder, particularly those involving the dome, with the technics of Judd, Scholl,[25] and McCarthy,[26] or the transperitoneal resection of Delbru,[28] are also readily accomplished by the use of regional anesthesia. Haslinger, Labat, and Swartzwald believe that the median-line injections reduce the vitality of the tissues in contact with the septic bladder contents. They suggest in these conditions a field block which avoids the line of invasion. The most commonly employed methods are those of Hackenbruch, Illyes, and Labat. We have used all of them, and find that the end results in ordinary cases are essentially the same. In the more extensive cases the blocks of Illyes and Labat are preferable. Field block is a typical example of conduction anesthesia; in other words, we build a wall of anesthetic fluid which surrounds the nerves in their course and quite thoroughly prevents the passage of impulses.

The midarea of abdominal wall, as can readily be seen, is quite an ideal place to use this form of anesthesia. We find that much of the innervation occurs from the lateral aspects, and is practically in parallel lines. In this connection, let it be said that it is well in attempting any local or regional anesthesia, to have clearly in one's mind the nerve distribution. This, combined with a little patience, will prove itself a most valuable adjunct in these procedures.

Hackenbruch's Rhombus. Among the many contributions of this surgeon, his original employment of field block is conspicuous. Its adaptation to suprapubic cystotomy is simple and effectual. A superficial wheal is made in the midline of the abdomen an inch and a half or so below the navel. A second wheal is made in the midline about an inch above the pubic symphysis. A lateral wheal is made at the outer border of each rectus muscle and midway between the pubic and subnavel wheals. These punctures now form quite distinctly the points of a rhombus; hence the name. At each of these points a needle is thrust directly downward until the aponeurosis is perforated. A few c.c. of the anesthetic fluid is injected at these points, and fanwise injections are made beneath the muscle in the direction of the poles and toward the center. Injections are then made subcutaneously connecting all the points. Upon com-

Bladder Operations Under Local Anesthesia

No. of Cases	Average Age	Diagnosis	Type of Operation	Anesthesia	Post-operative Reaction	Result of Anesthesia
14	49	Stone in bladder	Lithopaxy	Sacral	None	Excellent
9	52	Stone in bladder	Suprapubic cystotomy	Suprapubic field block	None	Excellent
2	60	Stone in bladder	Perineal cystotomy	Sacral anesthesia.	None	Excellent
4	38	Stricture of urethra	Retrograde catheterization	Suprapubic field block & sacral	None	Excellent
4	42	Tumor of bladder —dome	Deperitonealization resection	Suprapubic field block & sacral	None	2 cases were sensitive in stripping. Inhalations
3	54	Tumor of bladder —posterior wall	Transperitoneal resection	Suprapubic field block & sacral	None	Complete anesthesia in two cases; 3d required inhalation
8	40	Tumor of bladder —base	Extraperitoneal removal	Suprapubic block and sacral	None	6 complete anesthesias; 2 inhalations required
3	32	Diverticulum	(1) Transvesical (2) Extravesical } resection	Suprapubic block and sacral	None	Excellent
7	41	Ureterotomy	Lower ureter and Beer-type incision	Suprapubic field block	None	Slight pain in exposing ureter in four. Small amount of ether
12	58	Bladder carcinoma	Suprapubic cystotomy with radium	Suprapubic field block	None	Excellent
34	39	Varied bladder lesions	Cystoscopic manipulations	Sacral	None	Incomplete anesthesia in three

pletion of the above measures, about ten c.c. of fluid is injected through the lower wheal into the space of Retzius.

Field Block of Illyes (Author's Modification). Among urologic surgeons it is doubtful if any have had greater experience in this technic than Illyes. Briefly, his plan is as follows: Eight wheals are made in the corium. The first is one and a half inches below the umbilicus, in the median line, and the second just above the pubic symphysis. Three wheals are then made at the outer border of each rectus muscle, one close to the pubic arch, one just below the umbilical level, and a third midway between the two. At each of these points the aponeurosis is penetrated and a little fluid injected. Fanwise injections are then made submuscularly and subcutaneously, connecting the points of puncture. Through the lower midline wheal the space of Retzius is injected, as in the previously noted method. This procedure allows a very satisfactory approach to the bladder for carrying out the more radical manipulations of that viscus.

Labat's Technic. The method suggested by this foremost student of regional anesthesia is both simple and effectual. It is particularly of value in dilating the sinus in secondary prostatectomy, and also where amplified operations and dissections are necessary. We have been carrying out this system with slight modifications essentially as follows: Wheals are made just above each pubic spine at the outer rectus border. Another wheal is placed in the same line, just below the navel area, and a third midway between the two. Subaponeurotic and subcutaneous injections are made, as in the blocks described above. The space of Retzius is also injected in the same manner. We have utilized this technic in a large number of operations performed by various surgeons (some of the cases were extensive resections involving the vault of the bladder) and it has proved very satisfactory.

In all operative procedures on the bladder other than a simple cystotomy it is advisable to precede the field block with a sacral or parasacral anesthesia. This, as a rule, will, with proper care and technic, give a painless operative field. In an occasional case, however, there is a certain amount of bladder sensation in spite of the utmost care. This is particularly true where the peritoneal surface, or its immediate vicinity, is attacked. We have discussed the sacral technics previously, and so will not describe them here.[29, 30, 31] The appended table shows the results of regional anesthesia in 100 bladder operations, covering a period of about three years, and the work of several surgeons. Since the preparation of this table, an operation for incontinence and several cases of Young's punch operations have been successfully carried out.

30 East Fortieth Street.

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PERIARTERIAL SYMPATHECTOMY FOR FEMORAL CLAUDICATION

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N. O., aged 60 years, circuit judge, a Latin-American, was referred to me for study in June, 1925.

The chief complaint was of a primary onset of pain in 1921, affecting the right leg, especially the inner side of the calf, though not extending

below the tendo achillis. While traveling on a train, an accident had occurred, the patient had to walk up a long hill, and during this exertion he suffered from sudden severe pain. He had to be almost carried to another train, but felt easier as he rested. He slept well during the night, but the next day, upon trying to walk, the pain returned. Since that time the symptoms had been persistent each day, though varying in degree. Sometimes in walking a short distance he suffered severe pain; at other times he could walk a couple of miles without much discomfort, but the pain was always associated with movement. There was no ankle edema until a few weeks before I saw him, when both feet became equally swollen.

The personal history showed several severe infections. One sister died at 55 of sarcoma of the knee. From early boyhood he had suffered from bilious attacks very frequently up to the age of 40, and since then had been entirely free from them. Smoking and coffee drinking were excessive for many years. At 30, an attack of dysentery responded promptly to administration of ipecac. Scarlet fever at the age of 40 was quite severe. A mild attack of malaria fifteen years ago responded promptly to quinin. Twenty years ago all teeth were removed because of pyorrhea. Hemorrhoidectomy under chloroform was done 30 years ago. During the past fifteen years, constipation had required constant attention.

Eighteen years ago, following the death of his son, the patient suffered severe insomnia, and during all these years had taken a hypnotic nearly every night, varying between trional, veronal, or sulphonal in fifteen-grain doses.

His mental capacity had been tremendous, with very little time off for vacation.

In early years his weight had been 113 pounds, with an average of 103 for some years. His present weight was 97½. His height was 5 feet, 4½ inches.

Since 1921 the feet and hands had been very cold, the right leg always feeling colder than all the other extremities. No difference was noted between a high altitude and sea level. On awaking in the morning he could move all his toes quite well, and at no time had he noticed a change of color in them. Immediately upon assuming an erect posture, especially during the past two months, the pain had developed and continued for nearly a half-hour after resuming the resting posture, chiefly affecting the right calf.

His blood pressure on June 6, 1925, was: right arm—systolic 130, diastolic 70, pulse pressure 60; left arm—systolic 126, diastolic 66, pulse pressure 60. The pulse was regular, and the radials were synchronous, soft, and full. The pulse rate was 66. On July 30, 1925 the blood pressure was: right arm—systolic 160, diastolic 74, pulse pressure 86; left arm—systolic 130, diastolic 66, pulse pressure 64.

His gait was normal except for the pain. Both knee jerks were active, the right slightly more so than the left.

Two years before, the patient had had a sudden onset of pain in the right iliac fossa while walking on the street, this condition being diagnosed as appendicitis, but prompt relief came after lying down, and sometimes he was compelled to rest in bed for a long time owing to the severe pain which frequently came two hours after a meal. At times this was relieved by a bowel movement.

Examination of heart and lungs was negative. The abdomen showed thin walls, with peristaltic movement noted on lateral inspection. Auscultation revealed a distinct souffle which was heard in the left iliac fossa and very faintly heard on deep pressure to the right of the median line. This was not evident over the abdominal aortic area.

In October, 1921, Dr. A. I. Ringer, New York, expressed the following opinion: "Patient is suffering from intermittent claudication and arteriosclerosis which is responsible for his weakness and pain in the legs. The pulsation of his dorsalis pedis is poor, though much better than before."

Because of the marked tortuosity of the femoral arteries, together with a distinct feel of nodules, the patient was referred to Dr. George E. Pfahler for x-ray study, who reported as follows: "The liver is smaller than the average. Both kidneys are present and normal in size, outline, and position. They show no evidence of stone. I find calcareous plates extending along the descending portion of the arch of the aorta and along the upper portion of the abdominal aorta, with very definite calcification in the iliac arteries and in the upper femoral arteries. This is the most marked calcification that I have ever seen."

Operation at Samaritan Hospital by Dr. W. Wayne Babcock on June 28, 1925, was as follows: "Spinal anesthesia was used with very good effect. The patient was quite composed during the operation. Incision in the right iliac fossa exposed the external iliac artery extraperitoneally. The artery showed marked contraction from the spinal anesthesia and also from the sympathectomy performed by Dr. Babcock. Great plaques of calcareous material corresponded to the x-ray findings by Dr. Pfahler.

Incision closed. A left inguinal hernia was then repaired, and a less extensive sympathectomy was performed upon the left iliac artery, this containing almost as extensive a calcareous deposit, but showing a slight pulsation. The right artery had no pulsation in it. The patient reacted well."

Pulsation in the right leg was noted twenty-four hours after operation. Blood pressure in the legs after operation was as follows: Right femoral—systolic 74, diastolic 50, pulse pressure 24; left femoral—systolic 146, diastolic 36, pulse pressure 110.

The patient manifested pain in the right leg when the blood-pressure cuff was forced to 100, and in the left leg when the pressure went to 160. Over the left femoral artery a much louder souffle was heard than before operation. Over the right femoral the sounds came through very faintly and without force. The wide pulse pressure in the left side was accounted for by the relaxation resulting from the sympathectomy.

The patient returned to his native country, and a report received a few months ago indicates that he has been greatly relieved from the pain incident to the claudication. He has some swelling of both feet, probably due to cardiorenal degeneration, but on the whole he has profited very much by the operative procedure.

Medical treatment comprised intravenous injections of 30 grains of sodium iodid once weekly, together with tr. nux vomica, 10 drops in water before meals as a general stomachic. For the constipation, he was given compound licorice powder, 30 grains, with occasional use of two ounces of olive oil inserted in the rectum at bedtime, and a saline enema on the following morning whenever rectal pressure became unpleasant.

The drug habit and smoking were overcome by moral suasion.

THE MANAGEMENT OF THE HEART IN PULMONARY TUBERCULOSIS*

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The course and prognosis of pulmonary tuberculosis depend in a measure upon the heart and circulation. That a low blood pressure is interpreted by some observers as of diagnostic value prior to the appearance of physical signs is questionable, but a falling of blood pressure during the course of the disease is undoubtedly a bad sign. In all stages of tuberculosis, hypotension exists more or less, depending on the extent of toxemia present, and its return within a normal range is a favorable indication. The use of the sphygmomanometer should, therefore, be part of the routine, and efforts to keep the blood pressure normal will influence the prognosis favorably.

If the heart functions normally, the chances for arresting incipient phthisis are better and cases of the progressive type respond more favorably. The effect of tuberculosis on the heart is frequently observed at the very beginning of the infection, not particularly by reason of the toxic influences, but perhaps equally so through reflex action on the nervous system. An individual cognizant of his undermined physical condition is apt to be discouraged and worried, thus stimulating the sympathetic nervous system which in turn accelerates heart action. At first the heart is able to compensate the wear and tear on the circulation, but as the pathology becomes more pronounced, cardiac degeneration is more evident.

The heart in pulmonary tuberculosis receives less consideration than it deserves, probably because valvular lesions as a rule are not very significant. The theories advanced by some observers that valvular lesions of the heart and pulmonary tuberculosis are antagonistic have long been disproved. Heart lesions and tuberculosis coexist occasionally, although passive congestion of the lungs as the result of valvular heart lesions is supposed to act as a protection against tuberculosis infection. This hypothesis is worthy of further investigation.

It is true that the heart adapts itself to chronic infections such as tuberculosis, but its capacity is overestimated since the myocardium undergoes a slow degeneration with signs which are indeed insignificant. In acute infectious diseases like typhoid fever the changes in the heart muscle are rapid and perceptible, but in a protracted toxemia like tuberculosis the objective phenomena are comparatively nil. Nevertheless the pulse is soft and weak, the heart sounds modified, and there are other signs which should draw attention. Later on, when the pulse is decidedly disturbed and dyspnea marked, the situation is unquestionably certain.

On the other hand, if the heart action becomes disturbed, manifested by such symptoms as dyspnea on the least exertion, fatigue, precordial distress, and palpitation, attention should be given to the heart. In some instances the heart action is very violent, with precordial pain, throbbing arteries, and rise in blood pressure. These are decided indications for complete rest.

*Read before the Medical Research Society of Temple University.

The most important consideration in the management of phthisis is rest. A rise in temperature, a continuous cough aggravated on the least exertion, and excessive expectoration of purulent sputum are primarily the chief and important indications calling for rest. But the therapeutic effects of rest should not be gauged entirely by the tuberculous infection proper, nor measured in a sense by manifestations relative to the primary infection. The heart, too, begs for rest, and unless the demand is met, it will not continue to cope with the grave situation. Whether or not the patient should be put to bed for a definite time or should rest periodically depends on the severity of the symptoms. In some instances a recumbent posture for twelve hours per day would suffice. At any rate, thorough physical rest with an effort to free the mind from anxiety, discouragement, and depression, is apt to alleviate cardiac symptoms to a certain degree. If the patient is frightened, every effort should be made to allay the nervousness by psychic influences and sedatives if necessary. Emotion is a contributory factor in raising blood pressure, which in return adds additional cause for hemorrhage. An ice bag over the precordium has its good effects by reducing the heart action and pressure. A change in diet, prohibiting articles of food causing flatulence, is helpful.

If the blood pressure is above normal, aconite may be of service for its sedative effects on the heart and circulation. A few doses given at intervals of every two hours will ofttimes produce favorable results. Digitalis, also, has indications in phthisis as it does in other pulmonary affections, as for example, pneumonia. Its value in congestion of the lungs is well known because of its ability to relieve stasis. Contrary to the general rule that digitalis is employed solely in decompensated valvular affections, I want to emphasize its value in irritability of the heart associated with pulmonary tuberculosis. The reasons are obvious: digitalis prolongs diastole; regulates its beats, thus giving rest to the heart; stimulates the myocardium; and does not interfere with respiration.

In conclusion, I desire to reiterate that there are times when we must divert attention from the disease proper and concentrate on emergencies which may be more detrimental than the underlying pathology. The success attained so far in reducing the mortality of tuberculosis did not depend on fixed rules or methods. The prognosis today is viewed with a great deal of optimism, not because of any specific treatment, but as a result of early diagnosis and thorough execution of the simple principles such as rest, appropriate food, heliotherapy, etc. Other measures are commencing to receive recognition. The heart, up to the present, has been neglected.

We must continue our endeavors to discover additional means of arresting tuberculosis. From our present knowledge of the problem, I personally cannot entertain the ardent hope of ever being able to combat the disease with a specific remedy. Until the hope of such a remedy is fulfilled, we must make every effort to limit the disease, prevent complications, study every factor concerned which may have unfavorable influences on the prognosis, and thus continue our efforts to reduce the mortality.

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AN UNUSUAL RESULT FROM A SIMPLE ENEMA*

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While an enema is supposed to be perfectly harmless and is considered a minor procedure, under certain conditions it may contain a certain element of danger.

A male patient, aged 72, was admitted to the genito-urinary service of the Reading Hospital for acute retention of the urine. The examination showed the cause of retention to be an obstruction by an hypertrophied prostate gland. A retention catheter was inserted and the routine tests instituted. Later, because the patient did not seem to respond as well as we should have liked, a two-stage prostatectomy was decided upon. A suprapubic cystostomy was performed under nitrous-oxid anesthesia.

Two weeks later the patient seemed to be in good condition, but when the orderly was giving him a simple soap-water enema, he suddenly gave a gasp and ceased to breathe.

The autopsy showed that the pressure of the water dislodged some blood clots in the prostatic venous plexus, and the patient died of an embolism in the right side of the heart. Following is the description of the bladder and heart as furnished by the pathologist:

"The interior of the bladder is injected and contains a reddish turbid urine. A few of the veins about the base of the bladder appear firm and contain organized blood clots. The right ventricle of the heart is filled with fine, wormlike, partly organized clots whose conformation corresponds to the smaller-sized vessels, and one distinctly shows branching. These clots range from 5 to 11 centimeters in length and from 0.4 to 0.6 centimeters in thickness, and lie in the pulmonary orifice extending into the pulmonary artery and branches."

The lesson to be learned from this experience is that after an operation on the lower bowel, or anywhere in the pelvis, an enema should be given with caution.

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Editorials

THE ANNUAL SESSION

A most successful meeting of our State Society was held at Pittsburgh, when another milestone was placed in the aisle of time as a marker of our activities and achievements.

Dr. Arthur C. Morgan, of Philadelphia, was installed as president, and Dr. Thomas G. Simonton, of Pittsburgh, as president-elect. Drs. Walter F. Donaldson and John B. Lowman were reëlected respectively as secretary and treasurer. Drs. Walter S. Brenholtz, Frank G. Hartman, and Lawrence Litchfield were reëlected trustees and councilors. The officers are deserving of our gratitude for the services they render, especially Secretary Donaldson, to whom much credit is due for the most satisfactory manner in which he conducts the affairs of our Society which pertain to his office.

It is the delightful custom of our State Society to present a gavel to the retiring president. The following ex-presidents, who have served the Society so faithfully, and who were in the chair previous to the adoption of this procedure were presented with gavels: Drs. Adolph Koenig, Pittsburgh, Wm. L. Estes, Bethlehem, Theodore B. Appel, Lancaster, L. H. Taylor, Williamsport, and Edward B. Heckel, Pittsburgh.

The chief social function of the session is the president's reception, which was very well attended. The orchestra was unusually good, and accordingly the floor was continually crowded with dancers. Following the precedent established at the 1926 Philadelphia session, this reception was held immediately following the public meeting. The plan of holding these two functions the same evening is now permanent.

It was a delightful privilege to have Dr. Jabez N. Jackson, president of the American Medical Association, as our guest of honor. Dr. Jackson delivered splendid addresses at the opening of the general meeting and at the conference of secretaries. He also read a paper before the Surgical Section.

It was a treat to have Dr. Morris H. Fishbein, editor of the *Journal of the American Medical Association* and of *Hygeia* as a guest, and to hear his masterly address on "Fads and Quackery" at the public meeting.

The scientific sessions deserve all the praise that can be bestowed upon them. We are indebted to a wonderful group of guests from medical centers outside of our State, who graciously accepted places on our scientific program.

The Society owes a big debt of gratitude to Dr. Thomas G. Simonton who for several years was an indefatigable worker as chairman of the Committee on Scientific Work. The program arranged by his committee this year was pronounced by one in a position to know as being the best program he had ever seen arranged for a state medical society. A big loss will be sustained in the discontinuance of this activity by Dr. Simonton.

The House of Delegates fulfilled most satisfactorily its many duties, and credit is due to the various reference committees for their efficient services, which greatly expedited the working of the House. The entire proceedings of the House of Delegates, as usual, are published in full in this Journal. Each year the transactions of the House should be read by all our members in order that they may be properly advised of the disposition made of the business brought before this legislative body.

One of the policies of the Journal has been to foster a closer relationship between the medical, dental, and pharmaceutical professions. It was pleasing to note that the House approved the election of pharmacists to associate member-

ship in a county society. Those counties that have not already done so should amend their by-laws admitting dentists to associate membership, at the same time making provision under the new ruling of the House admitting pharmacists to associate membership.

According to the Constitution and By-Laws, the trustees, secretary, treasurer, and ex-presidents are ex-officio members of the House of Delegates, but without the right to vote, and "No individual occupying an ex-officio membership in the House of Delegates, shall be seated as a delegate with vote." Two ex-presidents were present on the second day of the meeting of the House, and attempted to transact business properly belonging to a delegate. The one had been duly elected a delegate by his county society. The other was appointed by the president of the respective county society to fill the vacancy caused by the absence of one of the duly elected delegates. The By-Laws state "If any component county medical society is without representation at the close of the roll call of the second meeting of any session of the House of Delegates, then the members registered in attendance may select from their number the number of delegates which such county is regularly entitled to elect."

President Morgan refused to acknowledge either one as a delegate, stating that according to the By-Laws the president of the county society in question had erred in appointing an *ex-officio* member of the House as a delegate. (We may add that although this practice on the part of the presidents of county medical societies seems to be a prevailing custom, the procedure is in error, as the By-Laws distinctly provide the procedure to be followed in filling such vacancies), and in the other instance the county medical society erred in electing as a delegate one who is an ex-officio member of the House. President Morgan called the attention of the Committee on Credentials to the By-Laws in regard to this matter, requesting that they no longer accept credentials from ex-officio members of the House to be seated as delegates. The attention of the officers of the various county medical societies is called to this provision of the By-Laws that they may obviate future embarrassments.

The House reiterated its approval of the Nondesignate One Board Bill presented at the 1927 session of the Legislature, and the trustees were authorized to see that an appropriate committee be appointed properly to place the views of the regular profession, which our State Society represents, before the Commission to Study the Laws Relating to the Healing Art at the public hearing to be held in Philadelphia November 16th.

The scientific exhibit is yearly increasing in value, and the time, thought, and effort expended upon this part of the annual session were repaid by the attendance at the demonstrations.

The commercial exhibit was one of the best, and brought to the attention of our members the latest developments appertaining thereto. We cannot urge too strongly the visitation of our members at these exhibits.

The trustees and councilors, under the wise guidance of Chairman Sharpless, have completed another year of most satisfactorily performed duties. Special meetings were held when deemed expedient while the Legislature was in session. No one who is not on the Board can form any idea of the duties and responsibilities involved. This was well exemplified by President-Elect Simonton upon the completion of his first attendance at a Trustees' meeting when he evinced his surprise by saying, "Well, I got an eyefull and an earfull." At the reorganization meeting, Dr. Wm. T. Sharpless, West Chester, was reëlected chairman, and Dr. Walter S. Brenholtz, Williamsport, clerk. The committees of the Board were reappointed.

The Woman's Auxiliary had a very successful meeting. They contributed one hundred dollars to the Medical Benevolence Fund. This should be a stimulus to our members to contribute to this most worthy cause, and to interest others in this laudable charity.

We desire to extend most grateful appreciation to the Allegheny County Medical Society, which was a most generous host. Everything possible was done to provide for the comfort and entertainment of the visiting members, guests, and their ladies, even to the staging of the first two games of the World Series at Forbes Field, within one block of headquarters.

At the Frolic and Smoker, "The Hospital Follies of 1927," a satire written and staged by the Pittsburgh Æsculapians, afforded much amusement. "Don't Call Me Doc," is still ringing in our ears. The address by Dr. John L. Davis, New York, humorist, philosopher, and thinker, was well received. A collation completed a most enjoyable evening.

The Golf Association of the Medical Society of the State of Pennsylvania was effected. Dr. John W. Croskey, Philadelphia, was elected president; Dr. George J. McKee, Pittsburgh, vice-president, and Dr. Thomas McCullough, Pittsburgh, secretary-treasurer. Dr. McKee has presented a cup. Now that golf competition is assured, zest will be added to attendance on the part of the golfer.

The next session will be held at Allentown. The last session held there was 1902. The attendance on the annual sessions of your State Society should be your one most important medical appointment of the year.

Those of you who are eligible, and anticipate appearing on the scientific program, should communicate early with the chairman of the Committee on Scientific Work, Dr. O. H. Perry Pepper, Medical Arts Bldg., Philadelphia. The first meeting of this committee will be held at Harrisburg on December 6, 1927.

Every encouragement should be given to the holding of alumni dinners at the annual sessions. This should present no difficulty, and in view of the fact that the greater portion of our membership are graduates of the six medical schools of our State, such events should be well attended. This year, dinners were given by the Jefferson Medical College and Pitt Medical Alumni Associations.

THE PRESIDENT'S PAGE

Beginning with this number of the Journal there will appear each month under the Officers' Department a page that will contain messages from the President. There are many things that cannot be placed in the presidential address, and there is much that is gathered by the president as he visits the various county medical societies, which, to be of value, should be conveyed at the earliest moment to our members. Some of the state medical journals have incorporated this feature with success.

Be sure each month to read the President's Page.

COURTESY

Courtesy is the oil that lubricates the mechanism of social and business intercourse. Without it the machinery will clog, rub, wear out, and finally stop. It is the quality which most truly differentiates the civilized man from the savage. In its last analysis it is little more than consideration for others. It calls for a certain amount of self-control, and a small portion of sacrifice. Yet the sacrifice entailed usually is repaid manyfold by the response to a courteous act. It applies mainly to the little things of life. Courtesy is not a question of life or death, it is not a question of poverty or wealth. It usually takes only a little time, a little effort, a little kindly forethought; yet it may mean the saving of much inconvenience for some one else.

All of which is by way of preamble. In looking over the minutes of the Woman's Auxiliary meeting which appear in this issue of the Journal, we noted the following: "In order to know more of the whys and wherefores of the unorganized counties, a communication was sent to each county where there was a medical association with sufficient membership to warrant an auxiliary. Letters were addressed to the secretaries of the county medical societies, *but very few responded.*" The italics are ours, and we would that we could italicize the idea. Whether or not the secretary was in sympathy with the organization of an auxiliary in his county, he at least owed the State Auxiliary the courtesy of a reply. These women are doing the pioneer work in an organization which in time will be of inestimable value if the foundation is properly laid. They are eager to learn, and we cannot do less than answer their inquiries.

This incident is illustrative of a state of mind which handicaps all organization work. The individual interests so overtop the collective interests that they are often permitted to push aside a small job which mayhap could be performed in ten minutes, and for lack of a reply an important work may be greatly hampered.

This matter of courtesy is more important than those not in charge of an organization headquarters can realize. Let us beg of you to respond with the courtesy of a reply to inquiries, even though the reply be negative. Better say "no" than nothing!

THE MEMBERSHIP APPLICATION BLANK

On page xxviii of the advertising section of this Journal will be found a blank application for membership. This is published as a convenient method of inviting eligible physicians to join County and State Societies. Clip it out and hand it to one of your nonmember friends. If he asks you "What's the use of my joining?" tell him that first of all it gives him contacts with those who are working together for the good of the profession and for the health of the community; it gives him an active part in a big work. It gives him the prestige of belonging to the organized profession from which only cultists and outcasts are excluded. It places on his professional and personal record the stamp of approval of his brother physicians.

As for the more material benefits, tell him membership will bring him monthly the Atlantic Medical Journal. It will give him moral and financial protection against alleged malpractice suits. It will enable him or his family to participate in the proceeds from the Medical Benevolence Fund in case of need. Membership in the Society is a form of self-insurance, also,

against undesirable legislation. Only through membership in the County and State Societies does he become a member of the American Medical Association, and eligible to Fellowship therein. Membership will give him the privilege of participating in the postgraduate work of the Society, and will help to make him a better physician and thereby increase his financial stability.

The Journal will be glad to coöperate to the extent of its ability in reënforcing your invitation to all who are eligible to membership. Sample copies will be sent on request to the office at 230 State Street, Harrisburg, Pa. Let us hear from you if we can do anything else.

THE M.D. DEGREE

The season for receiving college degrees has closed. Men and women by the thousands throughout the land, either because of constant academic training or individual achievement, have received many and varied types of degrees. These degrees may differ in worth, but the value of the degree of Doctor of Medicine is beyond question.

Many years ago the possessor of this degree won the plaudits of the public through humanitarian achievements. His virtues were extolled in words tinged with an emotional strain dealing with his personal sacrifices in treating a sick and a suffering humanity. The family doctor which the world lauds and for which the people yearn, and whose successor no one seems willing to become, represented a living example of this particular type of physician. The world cared little for his knowledge in other fields! His financial failures, or the fact that perennially his name appeared on the sucker list of fake promotors cast no shadow of doubt on the rôle he played in the home, at the sick bed, and in the hearts of living men and women.

Within recent years, to be a Doctor of Medicine means a great deal. Blessed with the honorable tradition of his peers and keenly appreciative of the part he played in the prevention and cure of disease, a physician's medical and scientific training enables him to understand to a great degree various phenomena in the social, economic, philosophic, and scientific world. This is made possible by the academic requirements of his premedical course and the highly scientific nature of his medical studies, which implies a knowledge of embryology, anatomy, physiology, physics, chemistry, hygiene, social science, health, and disease.

Such a training is reflected in those about us in the medical world. We see these men eminently successful in their respective specialties. The greater they are, it seems, the more they contribute to the civic life in the communities in which they live. Their training makes possible easy contact with the various civic clubs, fraternal organizations, school boards, churches, Sunday schools, social welfare agencies, scientific organizations, the banking world, and state and national governments, and their membership is welcomed and appreciated. Fortunate, indeed, is the physician whose training enables him to divert to wholesome usefulness his psychological, inherent, purposive activity, and to adapt himself to an ever-changing environment and new situations. A community is fortunate to have him in its midst.

All of these activities lie before the old and recent graduate of medicine. It is true that the latter is in but a chrysalis state, which requires time and study for its full development, but here is a sphere in which his developing mind may grow in knowledge and understanding. To some there may come periods when there is a full realization of their failure physically and mentally in the pursuit of medical practice; but even if they have made an unwise choice, they may soothe disappointment by the consolation that, in practice or out of practice, they have attained a background of knowledge which enables them at least to understand life, its mechanisms, its purposes, and its adaptation to the great setting which surrounds it. These are the beautiful vistas of a degree in medicine. May we always hold them sacred and ever keep them inviolate!

NATIONAL EDUCATION WEEK

At the time this Journal appears in print, the country will be celebrating National Education Week.

Education has become the most important factor in civilization. It can be made a force for good or for evil. It can advance or retard. It can broaden or contract the horizon of the taught. It is responsible for the propagation of superstition, and equally responsible for the expansion of scientific discovery. It is a common saying that the first seven years of a child's life determine his outlook for the remainder of his years.

Because education is such a powerful force, the better element of any community is responsible for making education constructive and forward-looking. We can make the next generation very largely what we will if we take the job seriously enough and work at it hard enough. There is no excuse for leaving educational facilities in the control of the ill-informed, the bigoted, or those who wish to use them for selfish or unworthy ends.

Education must not be tied down by hampering laws. It must be left free to discover new truths, to make new contributions to society, to lead the world into paths of greater freedom and righteousness. It must not be made a vehicle of selfish propaganda. It must not be made a medium for developing a national superiority complex, nor for building up a martial organization that will eventually destroy its creator.

Fittingly, educators have recognized that the foundation of a successful education and a happy life is normal health, and the first day of this important week has been devoted to health. The physician has a gospel to preach to all the world. In his keeping are many of the erstwhile secrets of nature, of proper growth and development, of protection from disease and its accompaniment of poverty and misery. It is fitting, therefore, that health be made the foundation of Education Week, and it is necessary that it be made the foundation of all school work. Whether or not the race may develop as a garden of beautiful blossoms and perfect fruits or as a field of unsightly weeds it is in the power of this generation to determine. The methods of improving mankind many hundred per cent are known. It remains only to educate the masses in an application of these methods.

Physically, mentally, and spiritually the world waits on health education. The physician has it in his power to supply the need. Are you, as a physician, doing your part?

PLANS FOR THE 1928 MEETING

No sooner is one meeting over than plans must be started for the next one, and your various committees are well on their way in the road to 1928.

The meeting will be held at Allentown, Lehigh County, October 1st to 4th. The beautiful Masonic Temple has been chosen for the headquarters. In the banquet hall in its basement will be located the registration booths and exhibits. On its first floor in the Consistory the Section on Surgery and the House of Delegates will hold their sessions, while the Section on Pediatrics will occupy the large parlor. About a square away, in the Auditorium of the High School, the General, Medical, and Public meetings will take place, and lunch will be served daily in the High School cafeteria in the basement. About three squares from the Temple, in the auditorium of the Nurses' College of Allentown Hospital, the Section on Eye, Ear, Nose and Throat Diseases will meet. A square from the Temple, on the top floor of the Hotel Traylor, the Sections on Dermatology and Urology will assemble. All these buildings are within a radius of four squares, and located in a most delightful neighborhood of parks and beautiful homes. On Wednesday night the President will receive in a beautiful hall in the business section of the city, and the reception will be followed by a dance that will have a most delightful setting.

Allentown is blessed with a number of good hotels, and we are assured that there will be no trouble about hotel accommodations. A full report on this subject will appear in an early issue of the Journal.

The social part of the meeting has not been planned in detail, but we are assured that the Country Club will accommodate the Woman's Auxiliary, and we have heard rumors of a barbecue at the Fair Grounds.

The Allentown members are on tiptoe to make the meeting successful. They are, to quote one of our officers, "a good bunch of fellows," and it will be a pleasure for members from other parts of the State to get well acquainted with them.

Let us all get together and boost for the best meetings we have ever had. Lay your plans now to attend the 1928 meeting.

SHOW THIS TO YOUR WIFE

A few pages to the rear of the editorials appears the department of the Journal devoted to the Woman's Auxiliary of the Medical Society of the State of Pennsylvania. This may be compared to the woman's page of the daily papers. It is not intended for the consumption of the gentlemen—and yet sometimes they find it interesting reading. We do not expect you to read these pages devoted to your wife, mother, daughters and sisters, but we shall be grateful if you will call the department to their attention.

This month it contains an account of the annual meeting. Next month it will contain, among other articles of interest, a number of reports of county auxiliary meetings. They are of considerable interest, for the ladies are beginning to find that there is a big field of activity open to the Medical Society Auxiliary. Not only do they more than double the medical vote and therefore the legislative influence of medical organizations, but in the growing work of lay education they will find their greatest outlet.

It is hoped that this Journal will be instrumental in helping their infant organization. It is only three years old, but it is a healthy, hearty child, and gives every promise of growing up into a most useful womanhood. Contributions

of worth-while material for this department will be welcomed by its editor. We cannot promise that everything submitted will be printed, for space may be lacking, but let us all pull together to make the department of vital interest not only to the members of the Auxiliary, but also to all "wives of the profession."

THE GROWING TENDENCY AMONG MODERN MOTHERS TO FEED THEIR BABIES ARTIFICIALLY

The above is the title of an article by Larkin, which appeared in the *Medical Journal and Record* of May 4, 1927, and, while it calls attention to a very important condition, the existence of which is only too true, unfortunately the author does not express his disapproval as one would naturally expect a physician to do. Attention is called to some of the reasons for the appalling increase in the artificial feeding of infants, most of which, however, are of value only from a historical standpoint, and do not seem to us in the slightest degree, to excuse or even satisfactorily explain this growing tendency. It is a great question whether or not "science has outdone nature in the art of feeding babies," as stated by the author. Were this true, there would be neither sense in, nor need for using wet nurses, and yet the employment of such people is markedly on the increase in certain communities.

While it is undoubtedly true that less mothers are able to nurse their babies today than was the case years ago, it is equally true that the number who can, but will not, is markedly on the increase, and for this there is no legitimate excuse. While the mode of life of the average woman of today, as the author states, has much to do with her inability to nurse babies, it should not be allowed to have anything to do with her lack of desire, and here is where the foreign-born mother puts to shame what the author calls our "so-called upper classes." Physicians could, and should demand with all the vehemence possible that a mother give her newborn baby its birthright, i.e., breast milk, and a long step would be taken in this direction if babies were turned over to the pediatrist at birth instead of being handled by the obstetrician, as is so often done now. The pediatrist is not only very much better fitted to care for the baby, but also knows far better than the obstetrician what the end results of artificial feeding are likely to be, even though the obstetrician's scientific knowledge and experience of how this should be done enables him to work out a formula that apparently agrees with the baby perfectly.

A NEW TREATMENT FOR RECURRENT VOMITING

Those who have had experience in the treatment of recurrent vomiting have no doubt been impressed with the unsatisfactory results obtained by following the directions given in most textbooks.

In the *Medical Clinics of North America* (page 1329, March, 1927) Dr. Lewis Webb Hill gives an interesting report of a boy who was subject to severe attacks, usually associated with a real acidosis. The removal of infected tonsils and a diseased appendix apparently did him no good, since these operations were followed by a recurrence of the condition. In previous attacks, glucose and normal salt solution were given intravenously, subcutaneously, and by rectum, but without any positive benefit. Immediately after the tonsillectomy, the patient developed the worst attack he had ever had, and his condition became precarious. He was markedly hyperpneic, in semicoma, with a poor pulse, and cold extremities, retching continuously and vomiting bile stained with blood. He was then given 300 c.c. of 10-per-cent glucose solution intravenously and 10 units of insulin subcutaneously. He did not vomit once after the glucose and insulin injections, and almost immediately brightened up and made a quick and uneventful recovery.

Dr. Hill reports that Meyer and Bamberg had similar good results in a number of cases by giving glucose solution in varying strengths, from 5 to 12 per cent, intraperitoneally or subcutaneously, with insulin hypodermically. Vomiting ceased in a short time, the acidosis cleared up, and the children made a rapid recovery.

This treatment appears to be specific in recurrent vomiting, as much so as in the acidosis that results in diabetic coma. While final conclusions cannot be drawn from the effects in a few cases, the prompt relief obtained warrants its further trial.

Glucose solution has been given in varying strengths from 2 to 12 per cent, and in amounts from 200 or 300 c.c. to 500 c.c., depending on the age of the patient. Insulin is given in the proportion of one unit to three grams of glucose. A large amount of glucose given intravenously should be injected very slowly.

In recurrent vomiting and in the acidosis of diabetes there is an inability to utilize carbohydrate which brings about the incomplete combustion of fat, and hence the production of acetone bodies. In recurrent vomiting there is an inadequate supply of carbohydrate, and on account of the vomiting it cannot be replenished with any certainty by mouth. In diabetes there

is plenty of carbohydrate available, but an inability to burn it. The end result—incomplete combustion of fat and the formation of acetone bodies, is much the same in both conditions, although in recurrent vomiting there is probably some additional factor, as it does not seem likely that the acetone-body production accounts for the whole picture. In diabetic acidosis the acetone bodies do not ordinarily cause vomiting, and in other diseases their presence is the result of vomiting. In recurrent vomiting the one thing that seems to be established is that, when glucose is burned up in the body by the administration of insulin, the acetone bodies disappear, the vomiting stops, and the patient who was so seriously ill is quickly restored to comfort and renewed vigor.

It would seem that the same method could often be utilized to advantage in giving support to the system when greatly depressed, as in the toxemia of acute infectious diseases such as diphtheria and scarlet fever, when not enough food can be given by mouth, and also in the state of depression and exhaustion that sometimes follows a surgical operation before the patient can take sufficient food by mouth.

COMPETITION

Competition is always uppermost in the mind of the business man, it is an everyday problem, and increasingly so, and leads to big mergers and more active trade associations. Competition exists, too, in the professions. The physician consciously and unconsciously is in competition with his confreres. Unless he keeps in touch with the progress of his profession by reading medical journals and medical books (for he should know the latest medical literature); attends medical society meetings, county, state, and national; and takes advantage of postgraduate teaching that may be brought to his community by his local county society, or through his community hospital or hospitals, then he is not taking advantage of ways and means placed at his disposal for this very important purpose. Then, too, he is in competition with others outside of his profession who may be practicing the healing art.

"It takes a lot of hard work for a man to be plaintiff and defendant, prosecuting attorney and defense counsel, judge and jury all at the same time," but this is the unenviable position in which the physician is very frequently placed. The physician of today cannot face the new competition unless he is prepared to meet it, both inside and outside of his profession.

As to competition from without, it must be accomplished by organized medicine. Too frequently the physician feels that if he belongs to an association it is all that is necessary; that if the organization has by-laws, officers, and a secretary, whether efficient or not, no further service is needed from him. We cannot stress too strongly that the individual member must function, and to the fullest extent, if our medical associations are to render efficient end results. Unsound and unfair practices must not be permitted to creep in. Our code of ethics must prevail.

The new competition must be met by coöperative associations that are pulling downstream together. The noncoöperator, the individualist, and the "go-it-alone" will be wrecked on the rocks that beset the way. We must function as a unit.

JOTS AND TITTLES

Are the People Interested in Health?

There is no question that the daily newspapers reflect the people's interests. With this in mind, we have reviewed the papers recently for medical news, and among other items have found articles on the following subjects:

Several articles have discussed the announcement by Dr. W. L. Aycock, head of the Harvard Infantile Paralysis Commission, that the organism of poliomyelitis has been definitely classified, that it has been proved by evidence of growth, although it is ultramicroscopic in size, and that it is only a question of time before a suitable animal is found to yield an antitoxin.

On the other hand, it is also reported that Dr. Milton J. Rosenau, professor of preventive medicine and hygiene at Harvard University, said at the Interstate Post-Graduate Medical Association, meeting at Kansas City, that favorable results have been obtained in treating infantile paralysis with a human serum. This was administered to fifty patients in the preparalytic stage of the disease during an epidemic in Massachusetts.

One of the Sunday papers devotes a page to an article by Dr. G. Harlan Wells on the reckless expenditure of energy in this "Step-on-it" age. Dr. Wells says that "the difference between the big and little man in business is marked by the difference in understanding of the word 'pep.' Great forces in nature move slowly. Brooks babble along, while broad rivers are majestic and silent in their power. Fuss and noise are *not* symbols of vital energy."—Not bad advice to pass along!

Another news dispatch described the address of Dr. F. Park Lewis before the convention of New York Central Lines Surgeons claiming restoration of eyesight by the use of infra-red rays. The doctor is said to have produced two patients to support his claim—a girl who had been blind three years and a young woman who had suffered extreme pain with loss of vision. He urged daily treatments up to an hour or more. The patient, he said, sits before a projector and exposes the eyes to the penetrating rays.

Dr. Chauncey L. Barber of Lansing, Michigan, was reported to have said, at the convention of the Ameri-

can Association for Medico-Physical Research, in Chicago, that 60 per cent of all babies born of cigarette-smoking mothers die before they are two years old, primarily because of nicotine poisoning. The newspapers thought the matter of sufficient interest to give space to contrary opinions of other physicians. The fact that this association was founded by the late Albert Abrams, of electronic fame, adds spice to the discussion.

A great deal of space has been devoted to discussion of cancer research. The rate in twenty-three American cities is said to have increased from 74.5 per 100,000 in 1906 to 92.3 per 100,000 in 1916, and 114.5 per 100,000 in 1926. Unfortunately a prominent statistician is credited with the statement that "the enormous sums of money which have been expended on cancer research seem to have yielded thus far not a fragment of evidence of real value toward control and cure of the disease. The more thoroughly one is familiar with the situation and the more disinterested one is regarding methods to be followed, the more one becomes convinced of the utter futility of most of the methods at present followed." In another article the same authority is credited with the statement that cancer is due to faulty diet. Again, Dr. Jay Frank Schamberg, of Philadelphia, is quoted as declaring that intensive sun rays are an important cause of cancer of the skin, especially among farmers and seamen. (See how Dr. Schamberg actually qualified this in the Philadelphia County Society Report for October 12th.) In another article, Major James F. Coupal, White House physician, is said to doubt that more than thirty-five per cent of the reported fifty per cent increase in human cancer represents an actual increase in the disease, the remainder being due to more accurate diagnosis and the increase in life expectancy which permits more individuals to reach the "cancer age."

Of all medical subjects, at the present time cancer appears to be the most talked about. Certain of the above quotations, however, show unquestionable need for more careful censorship on the part of the newspapers. Statements as to the cause of cancer should be quoted only as *individual opinions*, and emphasis should be laid on the fact that no one as yet has any actual *proof* as to cancer causation. Emphasis should also be laid on the good results attending sufficiently early treatment by present methods. The result of publication of such positive statements as are quoted above may be to cause needless distress among sufferers from the disease. Authentic information on this subject is greatly needed by lay publications, and will be used by them with avidity.

The recent discussion inspired by the study of the brain of Helen H. Gardner at Cornell University has led to consultation with Dr. Charles H. Burr of Philadelphia. Dr. Burr calls attention to the fact that study of one brain does not produce conclusive evidence as to the comparative intelligence of men and women. He reminds us that the study of a thousand brains might reveal something definite. Then he uses this as a text for remarks the jist of which is that "one of the great evils of today lies in the fact that people are trying to make boys and girls equal. They are not alike and can never be alike."

A plea for increased enrollment of volunteer Red Cross workers, as a means of spreading the activities of the organization to isolated rural districts, voiced by Miss Julia Lathrop, speaking at the Red Cross convention in Washington, was given considerable space.

Dr. Charles E. Beury, president of Temple University, is quoted as saying that "the time has come when it is virtually impossible for the student of medicine to divide his time between work and study, and successfully attain his degree.....He takes chances with his career when he studies all day in the medical school and then works through half the night. The burden is too much."

Another paper devotes two columns to items largely concerning health and education, from which we glean the following interesting items: For many little patients of Dr. F. H. Richardson, consultant in children's diseases of the New York State Department of Health, curtailment in hours of study resulted both in improved physical condition and in better school work.....In Cleveland all school children must submit to physical examinations, but may not be treated without written consent of their parents.....In Great Britain the Jewish Health Organization is investigating the prevalence of left-handedness among Jewish children..... James R. Angell, president of Yale, says in Harper's; "If existing institutions were to make entrance requirements much more severe than they are and were to increase the intellectual requirements for collegiate degrees, there would spring up overnight, like the national armies of which Mr. Bryan used to dream, new institutions to meet the ideals and demands of the present collegiate group."

Can the above fail to convey the fact that people are vitally interested in health subjects, and that the newspapers are trying to give them what they want? They will get some kind of information, though it be *mis*-information, and it is distinctly up to the medical profession to see that they get facts presented in a way that will be only helpful, never harmful. This is not the sole duty of medical organizations, but the coöperation of every individual physician is required if adequate lay education is to be realized.

Needs of the Blind

THE PENNSYLVANIA ASSOCIATION FOR THE BLIND, through H. R. Latimer, executive secretary, writes that there are "approximately 80,000 blind people in the State, 30 per cent of whom are capable of economic service if the proper training and opportunity be accorded them; 60 per cent are upwards of fifty years of age and need some special form of social service." Mr. Latimer states that the State has failed to date in the realization of its duty to these handicapped people, and recommends the "development of a program which will bring this great State to a proper realization of its duties in connection with its worthy blind people." He gives the good news that "ten per cent of the blind who are under twenty-one years of age are now well provided for since the schools for the young blind have been placed where they belong—under the State Department of Public Instruction."—*P. C. A. Herald.*

Invite the Public

AT THE LAST ANNUAL CONFERENCE of Secretaries of County Societies, of the Kansas Medical Society, the most important matter discussed was how to obtain better attendance at the regular meetings of the county societies. The Stafford County Society for several months has been following a plan that has worked successfully. It is simple, and endows the local Society with a dual function, in that while it furnishes the physician an opportunity each month to discuss perplexing medical problems and be informed on the latest developments, at the same time it educates the public

regarding the accomplishments of scientific medicine. The Public Relations Committee of the State Society depends mainly upon the county societies as the means through which the public can be reached and educated. Physicians can no longer treat the public with patronizing condescension. They must be taken into our confidence and educated to a realization of the chasm that separates quackery from true medicine. With this as the main objective, this society, four months ago, inaugurated the plan of inviting the public to attend its regular monthly meetings. At no meeting have there been less than thirty lay people. The most surprising thing is the intense interest manifested by the audience in papers and addresses on technical medical subjects, and the comments to be heard after the meeting and for days following. The programs are not exclusively medical. Other numbers, such as readings, music, etc., are presented, and light refreshments served.

These meetings have demonstrated that the idea that the public is not interested in subjects pertaining to scientific medicine is a fallacy. They are interested and from our experience, intensely so. By adopting this method, a society can be assured of better attendance and an opportunity to reach the public in a more effective way than by newspaper propaganda or pamphlet distribution. It does impose some additional work on the secretary, and its success will depend largely upon his enthusiasm.—*The Journal of the Kansas Medical Society,* August, 1927.

Infant Hygiene Taught

In the fall of 1924 ten one-hour lessons in infant hygiene were incorporated into the Wisconsin course of study through the coöperative action of the State Department of Public Instruction, the State Board of Health, the State Board for Vocational Education, and the State Board of Normal Regents. These lessons, says a statement by the United States Bureau of Education, are not mandatory except in the vocational high schools, but the State Superintendent of Public Instruction has strongly recommended the infant hygiene work, declaring it to meet a vital need in the educational program of the State. To insure the aim, "every Wisconsin girl educated for intelligent motherhood," this course of ten lessons was planned for girls of pre-high-school years, although now the course is quite generally offered to girls of the junior and senior high schools. A semi-formal diploma is awarded to all pupils who have had (1) ten hours' work, exclusive of reviews and examinations, (2) a demonstration of "bathing the baby" and putting up a bottle food formula, and (3) a passing rank or 70 per cent in an oral or written examination. The holding of this diploma entitles the girl to be called one of "Wisconsin's Little Mothers."

The Department of Public Instruction and the other State offices backing this work advise that, where feasible, each one of the ten lessons be demonstrated. To make this possible they recommend a standardized equipment as a part of the school property of every school where the course is taught, the equipment to include a hospital doll, open-front layette, equipment for bathing a baby and preparing an artificial food formula, and a basket bed. The infant-hygiene course, as recommended by the Department of Public Instruction and the three State boards, is an integral part of the public-school systems of certain Wisconsin cities.

For Sale: A Billion Christmas Seals

Don't forget to include in your December budget a liberal provision for Christmas seals.

Few persons have any conception of the magnitude of the annual sale of these seals. To print, distribute, advertise, and sell over 1,500,000,000 seals is a project somewhat out of the ordinary for social and philanthropic organizations. The National Tuberculosis Association is at the head of the movement, and guides and directs it. Affiliated with this organization are the state associations, and with them in turn are affiliated over 1,400 local associations and committees. All are volunteer, nonofficial organizations, supported almost entirely by the sale of Christmas seals.

These seals that are sold for one cent each have made possible the organized campaign against tuberculosis that has been carried on with ever-increasing emphasis year by year. The Christmas seals are truly health seals, since whatever helps to prevent tuberculosis helps to make for health. With the money raised by the sale of seals there have been secured hundreds of sanatoria, where those ill with the disease may receive care; preventoria, where children who have been exposed to the disease may be built up to resist its attack; tuberculosis nurses to care for patients who are ill in their own homes; and clinics, where examinations and advice are freely given. To thousands of people has been given the optimistic message that tuberculosis is a curable disease. Steady progress is being made in the fight against it, for since the organization of the National Tuberculosis Association in 1904, the death rate from it has been cut more than fifty per cent. Christmas seals furnish the ammunition that is winning the battle.

MEDICOLEGAL NOTES

Ownership Law Passes First Test.—A ruling on the constitutionality of the new Drug Store Ownership Act, passed by the Legislature at its last session, was refused by three judges on July 26th in a suit by the Louis K. Liggett Company against Attorney General Baldridge, the State Pharmacy Board, and others. The Liggett Company sought an injunction preventing the State authorities from proceeding against its chain drug stores under the authority of the act which provides in part that "no association or copartnership or corporation shall own a drug store unless all officers or members be registered pharmacists." "We see no need for the expression of any opinion by us respecting the merits of the bill at this time," an opinion handed down by Judge Victor Wooley, of the United States Circuit Court of Appeals, said. The opinion was concurred in by Judges William H. Kirkpatrick and O. B. Dickinson, of the Federal District Court.—*The Pennsylvania Pharmacist.*

Substitution.—Notwithstanding repeated warning and advice, a number of druggists in different sections of the country have found themselves involved in serious trouble for substituting an article in place of the trade-marked article called for. Just how many druggists are guilty of such practices we would not venture to say, although we believe they are in the minority. There is no excuse that can be offered in mitigation of the punishment inflicted. Even assuming that the preparation produced no harm to the purchaser, or that the seller actually believed that it was of equal value, there is no justification in making a sale of this character and doing so under the label of the trade-marked article. An act becomes substitution only when the customer is deceived in his purchase, when he asks for a given article and without his knowledge is given something else, sold and labeled as the article he asked for. We

abhor the phrase "just as good." It is all too frequently used in the would-be humerous jibes at the druggist. There is never any occasion to use it in the drug store. Manufacturers usually include in their advertisements an injunction to buy original packages only, and if this is done there can never be any question about the sale. If you must break a package, give the genuine article or lose the sale. Substitution is never justifiable.—*P. A. R. D. Bulletin.*

The Federal Food and Drugs Act of June 30, 1906, with subsequent amendments, has for its object the prevention of adulteration and misbranding of foods and drugs. Its enforcement is in the hands of the Food, Drug, and Insecticide Administration, formerly the Bureau of Chemistry, and hence one of the duties of this Department is to interpret the real significance of statements on the labels of medicinal preparations. Recently they have been studying the word "antiseptic" as employed by manufacturers in labeling their preparations. Since the Food and Drugs Act is designed to protect the public health, it is judicially sound to rule that the language used on a label should be given the meaning ordinarily assigned to it by those to whom it is addressed. Therefore the government has decided that if physicians generally and the public quite universally believe an "antiseptic" to be a substance which will kill disease germs, then only substances or preparations which, when used according to directions will do so, should be called antiseptics.

Compulsory Visual Tests Advocated.—Speaking before the International Optical Congress at Oxford, England, Dr. L. S. Palmer, of the Manchester College of Technology, contended that "every person who plans to become an automobile driver should be compelled to have himself examined by a specially trained optical specialist, and furthermore, he should be reëxamined at intervals of three to five years. In certain cases it should be demanded that the driver wear spectacles, not pince-nez, continually while driving. Besides these, a reserve pair should be continually carried." It is strange that there should be delay in carrying out this needed measure, as probably all of us know of cases in which the driver is a menace because of defective vision.

Compulsory Insurance Against Tuberculosis Adopted in Italy.—This measure covers nearly all manual labor and its employers throughout the country. Twenty million persons will be affected, each of whom will contribute a fixed sum twice monthly, the employer contributing an equal amount. The fund is to be used to build and equip hospitals which will care for 18,000 patients, and also to support the families of hospital patients. Children under fifteen will be covered by the insurance, although they will not be required to contribute until they have attained that age.

HOSPITAL ACTIVITIES

Precept or Practice.—Hospitals must have rules. These regulations usually originate in the superintendent's office, although at times they are simply transmitted by the superintendent from the board of trustees. But exception to their observance should not be expected by any member of the resident or visiting personnel, high or low. Class legislation is particularly obnoxious to the American citizen. To forbid the orderly to smoke in the corridors of the hospital and to wink at this practice when the fire is at the end of the chief-of-staff's cigarette is neither consistent nor courageous. It is a curious fact that some hospital administrators who require of others the strictest observance of their mandates are prone to break their own rules with the greatest of ease. Such a superintendent was recently making the rounds with a visiting colleague. When he unduly delayed closing a screen door leading to an operating room, he was politely yet positively asked by the nurse in charge whether he would not step inside, and thus prevent the entrance of flies. Such an act on the part of the nurse required not a little bravery, but it was wholly justifiable and brought, as it should, commendation from her superior. There should be no more rigid observance of the rules of the superintendent than that by the originator of these edicts. "Do as I say, not as I do," is an expression that it is not consistent with the enforcement of any law, whether it be of a nation, a state, a city, or a hospital.—*Modern Hospital.*

If Erysipelas Develops in a Surgical Ward, What Measures Should be Taken?—Today, erysipelas is not the scourge of the surgical department that it once was, although many institutions have great fear of its development in their wards. We have learned that this disease is not transmitted through the air, but by unclean hands, instruments, and utensils, or by soiled gowns and bed linen. It is perfectly possible, although not always practicable or often necessary, for a case of erysipelas to be safely treated in the same ward with other patients without endangering their welfare in any serious degree. If a patient develops this infection of the face in a surgical ward, it is, of course, most advisable immediately to remove him to other surroundings. The isolation of erysipelas nowadays is similar in detail to that employed in the case of pneumonia or typhoid fever. These are infectious and not contagious conditions, implying, of course, that in the former transmission of the disease is more difficult and less frequent than in the latter. The bed linen of this patient should be sterilized in a steam sterilizer. If such equipment is not at hand, the sheets, pillowcases, and blankets may be immersed in a disinfectant solution (such as one of 10-per-cent formalin), and the mattress sterilized by fumigation with formaldehyd gas. The bed should be cleansed with soap and water. Such simple precautions are usually all that are necessary in protecting others from developing this disease.—*Modern Hospital.*

Are Married Men and Women Good Interns?—It is to be supposed that the person who asks this question of the *Modern Hospital* has had some difficulty with the divided allegiance of an intern who has taken upon himself both hospital and family obligations. (Since women interns are being more or less generally accepted by hospitals all over the country, this problem can be said to apply to both sexes.) The answer cannot be expressed in any definite way without considering the individual or individuals being discussed. It can be said, however, that the duties of the hospital intern are so exacting and so time-consuming that he must be ready and willing at all times to give to the hospital unstintingly of his time and effort. Without any attempt at being facetious, it may be stated that some administrators have noticed that the married man, who has recently become a benedict, is less likely to be willing to devote his whole time to the hospital than one whose marital bliss has been of longer duration. Indeed, some recently married interns feel that an exception to the rule requiring their presence in the hospital during most of the day and night, should be made in their cases.

It should be definitely understood by all those per-

sons accepting internships that their service to the hospital comprises their first obligation, and that, while the hospital and its superintendent are, of course, interested in the happiness and welfare of all those persons working in the institution, yet no exception to its regulations can be consistently made because the intern is married. In one institution a married intern was rather regularly stinting the time spent in the hospital, asking other interns to perform his work, and not being fully honest in regard to signing out. When he was discovered by the superintendent carrying out this practice, his only excuse was that he was required to spend more time at home than the hospital schedule allowed. This institution, instead of discharging the intern as might be expected, required him to stay in the hospital every night for two weeks. It is because of the frequent occurrence of just such trouble that many hospitals refuse to accept married interns. In others, when it is learned that the applicant for internship is not single, a special contract is prepared in which complete allegiance to the hospital's welfare is stressed. Interns who marry nurses during their service to the hospital are particularly troublesome, because not only do they often lessen their own efficiency but also the usefulness of another of the hospital's personnel. To meet this situation, superintendents often rule that it is not permissible for both a physician and his wife to be attached to the hospital at any one time. It appears that this ruling is just, and that the efficiency of the hospital will be forwarded by its observation.—*Modern Hospital.*

PUBLIC HEALTH

State Health Department News.—According to a study just made by the Bureau of Vital Statistics, the automobile death toll in Pennsylvania is disproportionately large for the very young and for old people. For children between the ages of 5 and 9 the death rate per 100,000 is 27 and for people between 70 and 79 the death rate per 100,000 was 50.

Seven young women were recently graduated from a two-years' training course in nursing at the Mont Alto Sanatorium. Secretary of Health, Dr. Theodore B. Appel, and Dr. R. S. McCutcheon, Superintendent of the Institution, made the principal addresses. Miss Alice O'Halloran, Directress of Nurses, presented the diplomas, and Miss Maude Lytle pinned on the medals. All of these graduates entered the institution as patients and are now fully qualified as licensed hospital attendants with particular reference to the nursing of tuberculosis patients.

Dr. F. E. Coughlin, formerly County Medical Director for Butler and Venango Counties, is now associated with the central office, being connected with the Communicable Disease Bureau as one of its epidemiologists.

The Secretary of Health recently advised the public through the press that the peak of danger for infantile paralysis had been passed. Nearly 200 cases have been recorded in the Department. This number of cases developed from July, and includes those up to October 5th.

At a dinner recently held at the Children's Hospital, Mont Alto Tuberculosis Sanatorium, and at which Mrs. Samuel G. Dixon and Mrs. Dixon's daughter and son-in-law, Dr. and Mrs. Sharp, were present, Mr. Llewellyn Beaver, a patient at the institution, presented a very handsome and lifelike painting of the pioneer and founder of modern health, the much revered Dr. Samuel G. Dixon, the first Commissioner of Health. Dr. R. S. McCutcheon, Superintendent of the institution, gave a very delightful reminiscent talk on the history of the fight against tuberculosis in the State and the remarkable energy which was represented by Dr. Dixon's official activities in that direction. This ceremony was attended by a number of the members of the State Health Department, headed by the Secretary of Health.

Septic-Tank Advertisement Misleading.—*Health News* tells of an advertisement recently called to the attention of the New York State Department of Health:

> The bacteria multiplying very rapidly in the tank, attacking and consuming each other, all solids, papers, etc., pass through the baffles and flow out of tank perfectly pure water, ninety per cent purer than the majority of the water from the wells from which you are receiving your daily supply of drinking water.

The Department states that septic tanks do not provide complete purification of sewage, but simply give a preliminary treatment whereby the sewage is partially clarified so that in supplementary works the final treatment may be better accomplished. When effluents from septic tanks are discharged upon the ground or into small streams, nuisances result and conditions detrimental to health may be created. The disposal of sewage by such improper methods should not be permitted.

The Preschool-Age Child.—In every state the health authorities are stressing care and attention to children of preschool age, as witness the activities outlined in the *Ohio State Medical Journal:* "Clinics for preschool children are being held in Dover..... Plans for a medical clinic for children of preschool age are being prepared in Tiffin..... Belmont County health board has announced plans for clinics for preschool children..... Four clinics for preschool children were recently held in Marion." Does this point to state medicine? It requires great care to avoid the many dangers inherent in free clinic work. Who has the courage to point them out?

Harrisburg Clinic of Nervous and Mental Hygiene.—The report for the year classifies patients treated as follows: mental 61, nervous 9, epileptic 2, speech 20, Binot measurements 11; number over 16 years of age 12, under 16 years of age 91, number returning from previous year 17, number of visits by patients 261, number of sessions of clinic 33. Eighty per cent of the patients came from Harrisburg, and 62 per cent were sent in by officials of the Harrisburg School District. Several parents seemed very grateful for the improvement made in the speech of their children.

He, She, or It.—Bachelors and others usually seek safety by applying the harmless neuter, "it," to all babies of unknown or forgotten sex, but Dr. Eugene Bauer, health officer of Owego, N. Y., takes no chances. He sends the following printed letter to parents of female babies, another set being used for male babies:

Dear Parents:

Your baby is six months old today. Naturally you are proud of her, which you have a right to be.

Your wish is that she will grow up to be a useful and influential citizen.

One of the prerequisites of good citizenship is good health.

It is much easier to retain good health than to regain it when lost.

One of the most dangerous diseases that threaten the

health and life of your baby is DIPHTHERIA, a preventable disease.

We are enclosing literature telling you how to protect her against this preventable disease.

If you have a family physician, see him at once. If you have none, consult your Department of Health.

Respectfully yours,

Owego Department of Health.—*Health News.*

A Comparison of the Incidence of Illness and Death.—In a preliminary report upon the results of a morbidity study in Hagerstown, Md., the general observation was offered that the problems and aims of public health are still set forth almost entirely in lethal terms whenever statistics are used. It was pointed out that, in appraising the results of public-health work, we are in the habit of speaking of a "favorable" or an "unfavorable" death rate for the reason that the best indices, up to the present time, of the prevalence of nearly all diseases are the fatal cases only. Even our epidemiology is limited, for the most part, to statistics of deaths.

The suggestion was also ventured that one effect of this prolonged dependence upon mortality statistics has been to foster a fallacious premise for public-health work; namely, that a low death rate indicates the absence of ill health. Obviously it does not. We know that, on the contrary, an exceedingly unhealthful region may exhibit a mortality which is not extremely high, as, for example, a heavily infested hookworm locality, or a section abounding in malaria. Pellagra may be widely prevalent in a community without affecting materially its general death rate or even causing a large number of deaths from the disease itself. Instances of the same sort could be multiplied. Much ill health that is manifested in symptoms, in discomfort, in lessened vigor and efficiency, even in illness and suffering, is not reflected in the death rate, except for certain diseases, for any purpose practicable in preventive work.

What really matters more to the sanitarian, therefore, in his scientific searching for causes and conditions and in his preventive work, is not deaths but *ill health.* Of far greater importance to him than the life table or the list of causes of death is a view of the health situation as depicted by indications of *physical impairments* as shown by competent medical examination, and by records of occurrence of *sickness* and its attendant conditions.—Edgar Sydenstricker, *Statistician, United States Public Health Service.*

The Experiment in Fargo.—An exceedingly interesting and valuable experiment in child health has been in progress since January 1, 1923, in Fargo, N. D., under the auspices of the Commonwealth Fund, in coöperation with the local Red Cross, the health commissioner, and the schools. Stress has been laid on proper quantities of green vegetables in the diet, periodic medical examinations, and daily health inspection in the schools. Children showing any symptoms of a communicable disease are promptly sent home, even though their illness be only a cold. The teeth are given special attention, and when necessary, free treatment is provided. In this community of 26,000 inhabitants the spirit of coöperation has been excellent, and the citizens have lent themselves willingly to any system or device which has appeared to promise improvement in the health of their children. Never before have people been so interested in the subject of health, and if this large-scale experiment in Fargo proves helpful, the demand for its repetition in other communities will be so great that preparations to supply it may well be begun now.

INDUSTRIAL MEDICINE

Industrial Cleanliness.—Cleanliness is to the body what oil is to the machine; it preserves from rust. The best-kept machines last longest. It need not be proved that uncleanliness must invariably breed disease. Bathing is necessary for cleanliness. The hands, face, and finger-nails should be kept clean, especially before meals. Any cut or abrasion of the skin or mucous membrane may allow bacteria to enter when the spot is dirty or is touched by dirty hands. "The need of cleanliness is particularly great for those who work in factories, mines, and other places where dirt is likely to be carried to the mouth by the hands. The larger majority of the infections get a foothold in this way."—William H. Park, M.D. in *Cleanliness Journal* for July, 1927.

Coöperation Between Medicine and Engineering in Industry.—The hope of the Institute of Engineers, Australia, is that the medical and engineering professions may, by an exchange of ideas, enable the maximum efficiency to be obtained in the minimum time. Industrial accidents or illness arising from industrial occupations may be due to inexperience, poor judgment, unsuitability of employee for health reasons, or inattention to details on the part of some one. Only by using the greater experience of those scientifically trained to watch the effect upon mankind, coöperating with the engineering profession, are we able to improve conditions or remove causes. Much has been done in the recent past by the association of medicine and engineering, chiefly in the direction of sanitation and water supply. That great engineering feat, the Panama Canal, was made possible only by the coöperation of the medical scientist and the engineer.

Besides inefficiency, industrial fatigue causes so much loss of time through sickness and accident that it becomes of prime importance to our commercial community. Speaking generally, it may be stated that the chief factors governing industrial fatigue are dust, water, sanitation, poisoning, eyestrain (due to defective illumination or overexertion), and muscular fatigue (chiefly from the temperature or change of temperature met with in carrying out work), also the absence of conditions suitable for economic working.

In most industrial processes the dust nuisance exists. Yet how few industries are there in which scientifically designed ventilators are installed to reduce to a minimum its effect upon the worker. Much comfort can be gained by directing the dust away from the operator and replacing the atmosphere within with clean and fresh air purified by sunlight. A current of air directing the dust around the worker is probably more damaging than reasonably still air in a confined space. The medical scientist can advise the engineer of the danger of those almost invisible and less oppressive dust particles which arise from various processes, but which by their nature often cause more harm to the worker than dust of a purely irritant character. The engineer, on his part, should, wherever practicable, place exhausters over all processes in which dust or fumes may arise, and arrange the ventilation to give a flow of air from the operator and not the reverse. In this, and in fact in all processes conducted within buildings, the architect should confer with the medical authority and the engineer.

It should not be necessary for the employee to leave his work and proceed to other parts of the building to reach the nearest source of water supply or go without. Drinking fountains should be placed near the worker,

who should be encouraged to drink good water. The greatest number of cases of industrial poisoning arise from want of cleanliness on the part of the employee or from bad ventilation.

Over 75 per cent of the workers have imperfect eyesight. This large percentage suffer from eyestrain unless preventive measures are adopted. Many defects can be traced to bad illumination. Eyestrain and overexertion can be overcome by light distribution and by the absence of glare and hard shadows. Apart from the maintenance of the health standards of employees, accidents can best be guarded against by better lighting and the use only of tackle, tools, etc., that are in first-class order. Whilst it may be stated that the design of the lighting, ventilation system, and sanitary blocks are matters for the engineer, the insisting upon them, together with the cleanliness of the employee, rests more with the medical officer.

With the growing use of electricity, treatment after shock should be taught in all industries, and perhaps in the schools as well. Following shock, artificial respiration should be immediately resorted to and continued for not less than one hour. Cases have been cited in which recovery has taken place after that period of time, and after the medical practitioner had declared the patient dead. Most fatalities from shock occur when no one with knowledge of treatment is at hand, and frequently thirty minutes or longer must pass before medical aid is available. This delay is dangerous, and not only should ambulance bearers be directed to apply artificial respiration immediately (even if they believe the victim to be dead), but artificial respiration should be taught and practiced in all factories and schools.

Apart from fractures or torn flesh, the bulk of industrial and domestic accidents are associated with burns, and elementary treatment of burns, therefore, is something which every child should be taught.—Abstract from the *Medical Journal of Australia.*

Industry's Interest In Public Health.—It must be admitted that many industrial concerns, more particularly the smaller ones, see no connection between their interests and the public health. And even among some of the larger concerns the connection is as yet but vaguely glimpsed. Notwithstanding this, the statement may be made that industries as a whole have a very distinct interest in public health. The public is at least realizing the gravity of the accident situation which now reaches the staggering national figures of 90,000 killed and from 2,000,000 to 7,000,000 injured every year. Industry awakened to it 15 or 20 years ago, before compensation laws went into effect. The result is that today manufacturing plants may be said to be safer than homes, streets, and highways. Moreover, bad as is the accident situation, the Federal Government has stated that for every breadwinner who goes down and out from accident, between six and seven go down and out from sickness.

As to the criticism of some physicians that health work undertaken by an industrial concern takes just that much work away from the practicing physicians in the vicinity, the kind of health work usually undertaken by an industry is in the main what might be called "preventive." Experience shows that instead of taking practice away from physicians, this type of health work, on the contrary, actually increases it. Whenever any course of treatment is indicated, employees are almost invariably referred to their family physicians. It may be said that in any health work in industry, it is essential to have the coöperation of physicians in the community wherein the plant is located, and furthermore, it is usually only necessary to explain what is being attempted to secure such coöperation.

Specifically, what is being done industrially in health work? Without any individual being able to enumerate all of such items, there may be mentioned physical examination both before employment and periodically thereafter, dental, heart, and tuberculosis clinics, eye surveys, urinalyses, Wassermanns, x-rays, vaccinations, tests for air pollution, food, water, and milk examinations, investigations of sewage disposal, etc.

Though it was the humanitarian viewpoint that led originally to industry becoming interested in welfare work, there have developed subsequently a number of economic reasons making it advantageous to do so, especially with respect to health. In the study of industrial accidents, it has been found that the item of "carelessness" overtops everything else. As a cause, it is responsible for perhap 25 per cent of them. But a study in turn of "carelessness" leads to the conclusion that it may not always be a "cause" as was formerly considered, but may be an "effect" such as worry, ill-health, and fatigue. An employee worried or in ill-health or fatigued may be compared to a machine operating when not in good working condition. Any one of a number of things, accidents among them, is liable to happen in consequence. And accidents cost money. Statistics further show that the average industrial worker is absent from duty for six to nine days each year due to insignificant ailments. In the case of salaried workers, this loss falls wholly on the industries; while in the case of workers paid by the hour, the loss is divided; the worker losing in wages, the concern in output. Where absenteeism lasts so long as to require workers to be replaced, the loss to the industries increases heavily. Estimates vary as to the cost of hiring an employee; but besides this first cost, wastes of one kind and another are involved. Oftentimes the worker is no better in health than the one replaced. The accident hazard is increased, output is lessened, and defective work increases. Here is another economic reason indicating why big business is interested in health.

Finally, health work and other welfare endeavors in industry are bringing to the attention of the workers themselves matters with which they had not been acquainted previously. They are shown various angles from which such may be considered and how vitally they are concerned, both as individuals and as members of a community. These efforts have already borne fruit and cannot but have ultimately a far-reaching effect on the country at large, bearing out the statement made in the earlier part of this paper that there is no medium equal to the industries, aside from the national, state, and local government health channels, for improving the public health.—*Pennsylvania's Health.*

"The Industrial Medicine Chest"—a booklet compiled and published by Abbott Laboratories, North Chicago, Ill., describes the composition and use in industrial work of the various preparations manufactured by the company. A copy may be obtained on request to the publisher.

Automobile Registration Tags.—Now is the time to send your application to the State Highway Department for your tag. If you wait until the last moment, the congestion in the Department and in the post office due to the Christmas rush, may result in annoying delay.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

Minutes and Proceedings of the Seventy-seventh Annual Session, held at Pittsburgh, October 3, 4, 5, and 6, 1927

MINUTES OF THE HOUSE OF DELEGATES

Monday Afternoon, October 3, 1927

The first meeting of the House of Delegates was called to order in the Executive Office of the Hotel Schenley, Pittsburgh, Pa., on Monday, October 3, 1927, at 3.10 p.m., by the president, Dr. Harry W. Albertson, of Scranton.

Dr. Albertson: The seventh-seventh annual session of the House of Delegates of the Medical Society of the State of Pennsylvania will please come to order. I will ask the chairman of the Committee on Credentials for a report.

Dr. Edith MacBride reported that fifty-six members of the House had registered. The chairman announced that a quorum was present and that the House was duly constituted for the transaction of business.

The President: The next order of business is the presentation, correction, and adoption of the minutes of the seventy-sixth annual session.

Dr. Howard C. Frontz, of Huntingdon, moved that the minutes as published in the November, 1926, issue of the Atlantic Medical Journal be approved as recorded. Seconded by several and unanimously carried.

The President: As we assemble to open the seventy-seventh session of the Medical Society of the State of Pennsylvania, it is fitting that I, as your presiding officer, acquaint you with such transactions as concern this body and the various constituent committees; set forth such facts and recommendations as seem to me to be of paramount importance for the future guidance and welfare of this organization; and pay my respects to those who have so ably carried on the work and brought us to the close of another fiscal year in our history as an organization with a record of which we may justly feel proud.

This being a legislative year, we looked forward to some constructive legislation governing the rights and privileges of those engaged in the healing art, and with this thought in mind a subcommittee of your Board of Trustees had drawn and introduced, last January, into the Senate, then assembled, a bill known as the "One Board Bill," a piece of legislation, which, had it become a law, would have made standard requirements for all who came within its pale. A hearty opposition to this measure was early developed by the cults and their friends and supporters, and this, coupled with a lack of whole-hearted support on the part of those supposed to champion our cause, made it apparent that our interests could best be served by the withdrawal of the measure. I wish here publicly to express my appreciation of the untiring efforts put forth by Dr. George A. Knowles, chairman of the committee on Public Health Legislation, and Dr. Frank G. Hartman, representing the Board of Trustees, and the members of their respective committees in their effort to care for all legislative matters.

The commission appointed by Governor Fisher to investigate and study laws governing the healing art is now preparing to hold public hearings, and our Society should be represented at these meetings by the most able among us to urge the cause for better laws safeguarding the health of our great Commonwealth.

The Commission on Compensation Laws, under the untiring leadership of its chairman, Dr. Lever F. Stewart, waged a strenuous fight in the Legislature to secure amendments to the existing law more favorable to those engaged in this line of practice. There was some difference of opinion among our membership as to the advisability of supporting some of the proposed changes recommended by this commission, and while, as a whole, they figured but little in the end result, it served to demonstrate that in the future no measure should be brought before the Legislature of this State without the assurance of those sponsoring it that it will have the entire loyal support of this organization.

The work of the Committee on Medical Benevolence is worthy of favorable mention here. Theirs is a work unlike any other ever undertaken by this organization, and it brings forth collectively the best there is in us as individual members; viz., aiding the unfortunate among us. I want to recommend this work for your careful consideration, and ask, if you have not already done so, that you contribute to this fund. I should like to suggest to the Finance Committee of the Board of Trustees that in apportioning the allotment for the coming twelve months, as nearly as possible they make one dollar the amount set aside for medical benevolence.

The Committee on Promotion of Efficient Laws on Insanity, the Committee on Lay Education, and the Commission on Cancer have in their respective reports made definite recommendations which should commend them to the careful, and if possible, favorable consideration of this House.

To the above and to all other Committees and Commissions we wish to extend our grateful thanks for the efficiency and coöperation so generously given toward making this administration a success.

To the Board of Trustees, that princely body of men, who so faithfully, diligently, and efficiently serve you, both during the session and in the interim, I wish to extend my sincere thanks for their efficient and business-like manner of administering the affairs of this organization.

After ten years of association with them I feel that I know something of the time, labor, and personal sacrifice each of them has given to the end that this organization, of which we are all justly proud, might prosper and be the more efficient. I feel quite certain that but few of the membership realize the great sacrifice, the unselfishness, or the mental and physical energy which they have given during the past years, and which I am free to say has placed this organization in the foremost rank of State Medical Societies in America, and second only to the great American Medical Association. This body has shown excellent judgment in its selection of the present very efficient Board of Trustees, and I hope for a continuation of the successful policies inaugurated by them throughout the years to follow.

Just a word in passing as to the efficiency of that very important committee which has done so much to make our annual meetings a success, the Committee on Scientific Work, which for the past six years has been captained by Dr. Thomas G. Simonton. Annually it has been my lot to meet with this Committee, and time and time again I have expressed my appreciation of the completed program, and wondered how it would be possible to excel or even equal it another year, but this miracle always seems to come about, and the very high quality of this year's scientific program is but added evidence of their efficiency. I wish to extend my sincere thanks to all who have so generously contributed to this success.

I would respectfully call your attention to the very high quality of the official organ of this Society, the Atlantic Medical Journal. I feel certain if you will take the time necessary to peruse the pages of any other of the journals published by state societies in this country you will not find its equal either in make-up, or in the character of advertising or reading matter. This is in a measure due to a very efficient clerical staff in our office at Harrisburg, but principally is the success of this publication due to the very efficient editorship of Dr. Frank C. Hammond. It is to be hoped that in the near future other states on our border will see the great advantage of joining with us in this publication, thereby greatly augmenting the circulation and the revenue as well.

Officers other than the secretary may come and go, but the good work of our very efficient secretary, Dr. Donaldson, has made us wish that he, at least, might go on for ever. During a conversation with our much lamented Cyrus Lee Stevens, when it was apparent that he could not much longer carry on the burdens he so ably shouldered so many years, I asked for some expression of his choice of a successor and he said, "There is a young fellow in Pittsburgh by the name of Donaldson that I think would make an excellent man for the place"; and it is needless for me to tell you that I know he knew what he was talking about when he made this statement. Dr. Donaldson's service to this organization is invaluable, and it has been my hope for years that he might see his way clear to devote his full time to the work for which we know him to be so eminently capable.

Collectively you and your constituency have made the past year one to be long remembered by me and I wish sincerely to extend to you all my sincere appreciation of the service each individual has rendered, and to assure you that although I pass from the executive chair, which I feel signally honored to have held during the past year, I shall always maintain a live interest in the welfare of the Medical Society of the State of Pennsylvania and its many activities.

The President then announced the appointment of the following reference committees:

Committee on Credentials: M. Edith MacBride, chairman, Sharon; Jefferson H. Wilson, Beaver; T. Lamar Williams, Mt. Carmel.

Reference Committee on Reports of Officers and Standing Committees: Walter M. Bortz, Greensburg, chairman; James A. Lindsay, Pittsburgh; J. Fred Wagner, Bristol.

Reference Committee on Scientific Business: Adam J. Simpson, Chester, chairman; Henry W. Salus, Johnstown; William J. Armstrong, Butler.

Reference Committee on New Business: Curtis C. Mechling, Pittsburgh, chairman; Samuel G. Logan, Ridgway; Ward O. Wilson, Clearfield.

Committee on Place of Meeting: William H. Mayer, Pittsburgh, chairman; John B. Nutt, Williamsport; John J. Brennan, Scranton.

The President: For the chairman of the last mentioned committee, Dr. Mayer, I wish to say that those who wish to extend invitations to the Society for the next meeting will please convey this information to Dr. Mayer today or tomorrow. I will ask the committees to announce the place and time of their meetings where business matters may be brought before them.

I will now ask the chairman of each committee whose report is published in the program to rise and make any additional report he may have at this time.

As there were no additional reports at this time, the president referred the published reports as follows:

To the Reference Committee on the Reports of Officers and Standing Committees, the reports of the Secretary, Treasurer, Chairman of the Board of Trustees, Councilors, Committee on Public Health Legislation, Committee on Society Comity and Policy, Committee on Medical Benevolence, Committee on Defense of Medical Research, Committee on Promotion of Efficient Laws on Insanity, Commission on Conservation of Vision, Commission on Cancer, Committee on Archives, and Committee on Public Relations.

To the Reference Committee on New Business, the report of the Commission on Compensation Law, Committee on Necrology, Committee on Lay Education, and Committee on Open-Closed Hospital Situation.

To the Reference Committee on Scientific Business, the reports of the Committee on Laboratories and the Commission to Confer With Secretaries of Health and Welfare.

Reading of Correspondence

Secretary Donaldson stated that there was no correspondence to be presented at this time.

The President: The next thing on our program is new business. Has any one anything to present?

The Secretary presented the following communication from the Board of Trustees:

Whereas, During the 1927 Pennsylvania Legislature, a concurrent resolution was passed authorizing the appointment of a commission to study the laws regulating the practice of the healing art in the State and to present to the next Legislature a bill regulating such standards and practices, and

Whereas, The Governor has appointed this commission, commonly known as the Freeman Commission, and designated Dr. Ross V. Patterson, of Philadelphia, to represent the so-called regular medical profession; therefore be it

Resolved, That this House of Delegates reiterates its approval of the principles of the nondesignate bill presented to the 1927

Legislature as the program endorsed by the Medical Society of the State of Pennsylvania, and that the Board of Trustees be directed to establish such relations with Dr. Ross V. Patterson that they may be in a position to communicate to him the wishes of this Society.

The report was referred to the Committee on New Business.

The Secretary: Another resolution from the Board of Trustees, as adopted this morning, reads as follows:

Be it resolved by the Board of Trustees of the Medical Society of the State of Pennsylvania that the 1927 House of Delegates be requested to authorize the president of the Society to appoint a committee of sufficient number to communicate the views of this Society to the commission appointed by Governor Fisher to standardize the practice of the healing art in Pennsylvania.

Referred to the Committee on New Business.

The secretary then presented the following resolution:

Whereas, The State Medical Society meeting has become an annual event; and

Whereas, the financial obligation of entertaining the Society at its meeting imposes a great burden on the county society acting as host; therefore be it

Resolved, that it is the wish of the House of Delegates that the State Society appropriate a sum, not more than $1,500, to help defray the expense of these annual entertainments.

(Signed) Seth A. Brumm
George A. Knowles
Frederick Baldi

Referred to the Committee on New Business.

Dr. John A. Campbell, Williamsport, presented the following communication:

That there have been disagreements between the medical profession and the public-welfare agencies in many parts of the country is a matter of common knowledge. Most of the disagreements are the result of lack of understanding and coöperation between the medical profession and the public welfare agencies. All parties concerned are working to a common end; viz., the betterment of the public health.

The best results can be obtained only by a mutual understanding of the aims, duties, and privileges of all parties concerned. That there may be a more harmonious and effective development of public-health activities in the State of Pennsylvania, I herewith offer the following resolutions:

First: *Resolved* that the Medical Society of the State of Pennsylvania appoint a commission, consisting of five members, to confer with the various private and governmental health agencies of the State, with the object of formulating a working, amicable program whereby the services rendered by the medical profession to all such agencies shall be under the jurisdiction, or at least have the sanction of the State and local county medical societies; the commission to report to the House of Delegates at the 1928 session.

Second: Resolved that the House of Delegates advise each component medical society to adopt a set of resolutions outlining the scope of free medical and surgical services their members may contribute to the various private and governmental health agencies, and requiring all such agencies expecting to furnish free medical and surgical service to submit their program both as to the method of providing such service and the personnel of their medical staff, to the local county medical society for its approval.

(Signed) John A. Campbell, *Lycoming County.*

The President: Hearing no objection, I will refer this to the Committee on New Business. Has any one else anything to bring up at this time?

Dr. Charles H. May, York, presented the following resolution:

Whereas, Pennsylvania, formerly the greatest lumber-producing State of the Union, through lack of inadequate reforestation policy, has now fallen to twentieth in this respect, so that it now produces only sufficient lumber per year to supply the demand of one city the size of Pittsburgh, and

Whereas, As the result of the destruction of our forests, many springs are drying up and the water supply of numerous towns is being threatened, and

Whereas, As a result of this destruction the danger of floods, with their aftermath of disease, pestilence, suffering, and loss of life, is measurably increased, and

Whereas, The resulting extension of the State Forestry Service would offer ideal occupation for many of our citizens with arrested cases of tuberculosis; therefore be it

Resolved, That the Medical Society of the State of Pennsylvania, in convention assembled, go on record as favoring the proposed twenty-five million dollars ($25,000,000) State forestry bond issue, to be voted on at the general election in 1928, and use such influence as it may possess in the furtherance of this object.

Presented at the direction of the York County Society.

(Signed) Charles H. May, York County.

The President: Hearing no objection, I will refer this also to the Committee on New Business. These are matters of vital importance to this Society, on which we should take a definite stand either for or against. I wish to stress the necessity of your appearing before this Committee on New Business and expressing your views as to these resolutions.

Dr. Fred M. Jacob, Pittsburgh, presented the following resolution:

Whereas, The present rulings of the State Board of Medical Education in regard to hospital laboratories were made some time ago, and conditions have changed considerably in the past few years, causing some hardship in smaller hospitals; therefore be it

Resolved, That the State Board of Medical Education be requested to reconsider some of these rulings in order to assist the smaller hospitals in this regard.

(Signed) Fred M. Jacob.

The President: Hearing no objection, I will refer this also to the Committee on New Business.

Dr. Adam J. Simpson announced that the Committee on Scientific Business would meet on Tuesday morning at 9 o'clock in the Sun Parlor.

Dr. Curtis C. Mechling announced that the Committee on New Business would meet in the Sun Parlor immediately after the adjournment of the House of Delegates.

Dr. William H. Mayer announced that his committee would meet immediately after the adjournment of the House to receive invitations for the next meeting.

The President: I am well pleased to announce that we have with us today the editor of the *Journal of the American Medical Association*, Dr. Morris Fishbein, whom I will call upon to address the House of Delegates at this time.

Dr. Morris Fishbein, Chicago: One becomes quite accustomed to making a few remarks, although they are not always well chosen, but at this time I shall try to make them few and perhaps well chosen. I have listened to the discussions of this House of Delegates, and as I listened I saw so many faces of persons who are active in the affairs of the American Medical Association that it was like attending a meeting in the home office, where you are so well represented by men on our various committees and councils. You have such a large delegation to the House of Delegates of the American Medical Association, and such an important representation on the Committee on Alcohol—which is a very important committee at this time—that I feel quite at home. I am interested to know that your committees hold all of their meetings in the Sun Parlor, because one comes to Pittsburgh to sit in sun parlors right along!

My purpose in coming here is to speak on Wednesday evening on "Fads and Quackery" in medicine. I think we shall hear very little of either fads or quackery in the scientific session, so I will talk about it then.

I know we are all looking forward to the report of the committee to consider the work of the commission on the practice of the healing art that will spend $20,000 to find out whether a chiropractor is ignorant. It doesn't take that much money.

As I listen and watch the running of the machinery of this House, and see everything go off so smoothly, I am reminded of the story of an ancient king who decided to make the biggest noise that had ever been heard. He called all of his people together and announced that on the ringing of a bell, on the stroke of three, every one would shout "Hurrah," but the only voice that was heard was the voice of the king, because every one else wanted to listen. That is the wrong

way to get action in a house of this kind, and while it is sometimes a good thing to have machinery run without noise, it is also a good thing for all the cogs to make themselves heard frequently, and whenever the occasion arises that warrants.

The President: We are indebted to Dr. Fishbein for his remarks, and I wish to assure him that if he always attended the meetings of the House of Delegates of the Medical Society of the State of Pennsylvania, he would sometimes hear the cogs.

If there is no objection, we will announce the time for the next meeting of the House Wednesday morning at 9 o'clock, and the first order of business will be the election of officers.

Dr. Adam J. Simpson moved that the House of Delegates adjourn.

Motion seconded, and the House adjourned at 3.50 p.m.

Harry W. Albertson, *President,*
Walter F. Donaldson, *Secretary.*

Wednesday Morning, October 5, 1927

The second meeting of the House of Delegates was called to order in the Executive Office of the Hotel Schenley, Pittsburgh, on Wednesday, October 5, 1927, at 9.10 a.m., by the president, Dr. Arthur C. Morgan, Philadelphia.

The President: The meeting of the House of Delegates will please come to order. The first order of business is the roll call. I will ask the secretary to call the roll at this time.

The secretary called the roll county by county, and 73 delegates responded.

The president declared a quorum present and the House duly constituted for the transaction of business.

The secretary read a portion of the minutes of the first meeting of the House of Delegates, and Dr. A. H. Colwell moved that the further reading of the minutes be dispensed with. Motion seconded and carried.

The President: The next order of business for the Wednesday morning session is the election of officers for the ensuing year. Is it the wish of the House that we elect each officer independently, or shall we nominate all officers first and take action after the nominations are closed?

It was decided that the election should be held after the nomination of all officers.

The president, having ruled that ex-officio members of the House may not (even if present as elected delegates) create business on the floor of the House, declared nominations for president-elect in order.

Dr. John A. Campbell, Williamsport, nominated Dr. Thomas G. Simonton, Pittsburgh, for president-elect.

The nomination was seconded by Dr. Leonard G. Redding, of Scranton, Dr. William H. Mayer, of Pittsburgh, and Dr. John W. Croskey, of Philadelphia.

The following members were nominated for the respective offices: First vice-president, Dr. Robert L. Anderson, Pittsburgh; second vice-president, Dr. J. Spencer Callen, Shenandoah; third vice-president, Dr. W. O. Wilson, Clearfield; fourth vice-president, Dr. David W. Thomas, Lock Haven; secretary, Dr. Walter F. Donaldson, Pittsburgh, to succeed himself; assistant secretary, Dr. Christian B. Longenecker, Philadelphia, to succeed himself; treasurer, Dr. John B. Lowman, Johnstown, to succeed himself.

The following were nominated as trustees and councilors: Dr. Walter S. Brenholtz, Williamsport, to succeed himself for a term of five years (Seventh Councilor District); Dr. Frank G. Hartman, Lancaster, to succeed himself for a term of one year (completing the unexpired term of Dr. Theodore B. Appel) (Fifth Councilor District); and Dr. Lawrence Litchfield, Pittsburgh, to succeed himself for a term of five years (Tenth Councilor District).

The President: The next order of business is the presentation of nominations for delegates to the American Medical Association. I will ask for the report of the chairman of the Committee on Society Comity and Policy.

Dr. Henry D. Jump, Philadelphia, chairman: The Committee deems it advisable to recommend certain changes in the delegation to the American Medical Association, bearing in mind that it is desirable to send back practically the same delegation year after year, that the influence of this delegation may be continuous and thereby increase, but also bearing in mind the advantage of a certain rotation in office. We therefore nominate as follows:

Delegates: Charles C. Cracraft, Claysville; J. Newton Hunsberger, Norristown; William H. Mayer, Pittsburgh; John A. Campbell, Williamsport; Frank P. Lytle, Birdsboro; J. B. McAlister, Harrisburg; Orlando H. Petty, Philadelphia.

Alternates-Designate: Edgar M. Green, Easton; J. Treichler Butz, Allentown; John J. Buchanan, Pittsburgh; C. A. E. Codman, Philadelphia; Horace G. Kinzer, Lancaster; Earl R. Whipple, Steelton; James A. C. Clarkson, Lewistown.

Alternates-at-Large: Robert K. Rewalt, Williamsport; George W. Reese, Shamokin; Lever F. Stewart, Clearfield; Howard C. Frontz, Huntingdon; George E. Holtzapple, York; John B. Lowman, Johnstown; Frank G. Hartman, Lancaster.

The President: The report of this committee will be received as a nominating committee, and the chair will now receive any further nominations from the floor.

Dr. Wilmer Krusen, Philadelphia, nominated Dr. Theodore B. Appel, but Dr. Appel declined the nomination.

The President: I will ask the Secretary to read the nominations for district censors received from the sixty-three component societies.

Dr. Donaldson: Rather than listen to the reading of the list, I hope the House will consider the names in nomination as they will be printed in the minutes.

District Censors

First District.—Philadelphia County, Frank White, Philadelphia.

Second District.—Berks County, Charles W. Bachman, Reading; Bucks County, William C. Moyer, Quakertown; Chester County, U. Grant Gifford, Kennett Square; Delaware County, J. Harvey Fronfield, Media; Montgomery County, John T. MacDonald, Norristown; Schuylkill County, James Lessig, Schuylkill Haven.

Third District.—Carbon County, Wilson P. Long, Weatherly; Lackawanna County, ; Lehigh County, George F. Seiberling, Allentown; Luzerne County, Herbert B. Gibby, Wilkes-Barre; Monroe County, I. Anson Singer, East Stroudsburg; Northampton County, Edward S. Rosenberry, Stone Church; Wayne County,

Fourth District.—Bradford County, Fayette L. Inslee, Le-Raysville; Columbia County, ; Montour County, Horace V. Pike, Danville; Northumberland County, Charles M. Thomas, Sunbury; Susquehanna County, William J. Condon, Susquehanna; Snyder County, Percival Herman, Selinsgrove; Sullivan County, William H. Randall, Williamsport; Wyoming County, William W. Lazarus, Tunkhannock.

Fifth District.—Adams County, Tempest C. Miller, Abbottstown; Cumberland County, Edward R. Plank, Carlisle; Dauphin County, Hiram McGowan, Harrisburg; Franklin County, Leslie M. Kauffman, Chambersburg, R. R. 8; Lancaster County, Walter J. Leaman, Lancaster; Lebanon County, William M. Guilford, Lebanon; York County, Louis S. Weaver, York.

Sixth District.—Blair County, W. Albert Nason, Roaring Spring; Center County, James L. Seibert, Bellefonte; Clearfield County, William E. Reiley, Clearfield; Huntingdon County, William H. Sears, Huntingdon; Juniata County, Amos W. Shelly, Port Royal; Mifflin County, Frederick A. Rupp, Lewistown; Perry County, Lenus A. Carl, Newport.

Seventh District.—Clinton County, John B. Critchfield, Lock Haven; Elk County, John C. McAllister, Ridgway; Potter County, Elwin H. Ashcraft, Coudersport; Tioga County, Lloyd G. Cole, Blossburg; Lycoming County, Wesley F. Kunkle, Williamsport; Union County, Oliver W. H. Glover, Laurelton.

Eighth District.—Crawford County, Clyde L. Williams, Linesville; Erie County, Orel Chaffee, Erie; Mercer County, George W. Kennedy, Sharon; McKean County, Henry J. Nichols, Bradford; Warren County, Otis S. Brown, Warren.

Ninth District.—Armstrong County, Hugh I. Stitt, Kittanning; Butler County, Willis A. McCall, Butler; Clarion County, Hilton A. Wick, New Bethlehem; Indiana County, Charles E. Rink, Indiana; Jefferson County, Spencer M. Free, Dubois; Venango County, Jacob P. Strayer, Oil City.

Tenth District.—Allegheny County, Richard G. Burns, Pittsburgh; Beaver County, Albert N. Mellott, Ambridge; Lawrence County, C. Fenwick McDowell, New Castle; Westmoreland County, Urban H. Reidt, Jeannette.

Eleventh District.—Bedford County, Harry A. Shimer, Bedford; Cambria County, Henson F. Tomb, Johnstown; Fayette County, Freeman S. Hoover, Brownsville; Greene County, Thomas N. Millikin, Waynesburg; Somerset County, Russell A. Noon, Listie; Washington County, Larry D. Sargent, Washington.

THE PRESIDENT: We will accept Dr. Donaldson's report.

DR. GEORGE A. KNOWLES, Philadelphia, moved that, as there was but one candidate for each office, the secretary be instructed to cast a unanimous ballot for the House, with the exception of the Secretary, this ballot to be cast by the assistant secretary. Motion seconded and carried.

DR. DONALDSON: In nine years of service I have never before had the honor and pleasure of casting a blanket ballot for so large and so distinguished a group of gentlemen. I, therefore, announce the ballot cast as directed and so report to you, Mr. President.

THE PRESIDENT: It is my pleasure to announce that there is a unanimous election of all the gentlemen nominated, with the exception of the secretary, and we shall now have the report of the assistant secretary.

DR. LONGENECKER reported a unanimous ballot cast for Dr. Donaldson to succeed himself as secretary, and the president declared Dr. Donaldson duly elected.

The president appointed Dr. George A. Knowles a committee of one, with any one he might select as his coadjutor, to escort President-Elect Simonton to the room. He then called for the report of the Committee on Place of Meeting.

DR. WILLIAM H. MAYER, Chairman, reported that but one invitation had been received, same having been extended by the delegation from Lehigh County for the Society to meet in Allentown in 1928.

DR. PIUS A. NOLL, York, moved that the invitation be accepted. Motion seconded and carried.

DR. KNOWLES presented President-Elect Simonton.

DR. SIMONTON: Mr. President and members of the House of Delegates: I wish you to know that I appreciate this honor very much. It comes to a man only once in a lifetime, and I hope I shall be able to preside and take care of the affairs of the Society in a way you will like. When Dr. Jump asked me to become chairman of the Program Committee six years ago I promised to do so to the best of my ability. For twenty-seven years I have attended every meeting of the State Society, and have labored night and day in and out of season for the best interests of the Society. I have watched its growth since the time when four or five hundred was considered a large registered attendance. I have been a member of the House of Delegates for many years, and have watched its development from a small, unorganized body to a place where the American Medical Association recognizes it as one of the best-organized bodies among the state societies. It will be my pleasure and honor, to the best of my ability, to represent the best interests of this Society both in season and out of season. I thank you.

THE PRESIDENT: The next order of business this morning is the hearing of reports of reference committees, and I will ask for the report of the Reference Committee on Reports of Officers and Standing Committees.

In the absence of the chairman of this committe, DR. J. FRED WAGNER, Bristol, presented the following report:

REPORT OF THE REFERENCE COMMITTEE ON REPORTS OF OFFICERS AND STANDING COMMITTEES

To the President and House of Delegates:

1. Your committee is much impressed with the systematic and complete reports of our secretary and treasurer. The secretary's report shows a net gain in membership of 108 for the year, this gain being distributed among thirty county societies. The twenty-five county societies showing a loss and eight societies no change in membership might accept this as a challenge to greater activity the coming year. The councilor for each district wherein no gain has been made might join in this challenge.

The Medical Defense Fund has functioned splendidly, and your committee wishes to emphasize our secretary's request that where, for any reason, x-ray pictures are not obtainable when advised, x-ray release blanks be used in all cases. Particularly pertinent here is a quotation of an attorney retained by the State Society to conduct a defense, on the origin of damage suits: "It is evident that damage suits would be fewer if physicians in general would be more discreet in criticizing the work of their fellow practitioners."

The economical manner in which the business of the Society is accomplished is indeed refreshing in these days of high finance. The treasurer's report shows the result of these economies. Our secretary and treasurer and the Board of Trustees cannot be commended too highly for the efficient manner in which the business of the Society is accomplished. Our organization must indeed feel secure with such officers as these steering our activities.

2. Although the Medical Benevolence Fund showed disbursements of only $1,732.26 this fund is quite necessary. It is a matter of regret that so few physicians and societies contributed to it. The need of this fund may not appear great at the present time, but it would seem that a substantial benevolence fund would be a safeguard against some future contingencies. It should be considered how the fund could be increased by the Society at large instead of by personal appeal.

3. The reports of the individual councilors show what splendid work these emissaries of good will are doing. They are all men of unusual talent and standing in the profession, and as such are capable of carrying into the remotest districts of the State ideas of progress, and with their enthusiasm stirring up latent fires. More frequent visits of the councilor to his county societies would serve to cement the relationship between the county societies and the parent organization. They might also take a greater interest in the individual problems of each county society so that only members who will prove themselves capable may be elected to office, and suitable programs covering the various fields of medicine may be arranged. The suggestion of our president that meetings be held between councilors and district censors at their respective gatherings is a very timely one. The interchange of ideas would be very helpful.

4a. We note with great favor the paragraph in our president's message relating to the admission of phar-

macists and dentists of good standing into associate membership in county societies. This is a step in the right direction, since in many respects we are dependent one upon the other.

4b. Our president also brings forward the advisability of our treasurer attending the meetings of the Board of Trustees. It would appear that this suggestion is practical and worthy of the consideration of the House of Delegates.

5. The Society owes a debt of gratitude to the Committee on Public Health Legislation. These champions of our profession successfully prevented the passage of legislation which, if put upon the statute books, would have worked irreparable harm to the citizens of this Commonwealth. Suitable avenues of approach should be considered whereby this committee, or some other suitable committee, might contribute to the counsels of the commission recently appointed by Governor Fisher to study the laws relating to the practice of the healing art. The work of this commission is comprehensive in its scope, and our profession should lose no opportunity for safeguarding the people of this Commonwealth against quackery and illegal practitioners.

6. Your committee joins the Committee on Promotion of Efficient Laws on Insanity in requesting our State Medical Society, through its House of Delegates, to approve the bond issue for $50,000,000 for a ten-year building program for State-owned institutions caring for the insane, feeble-minded, and epileptic, and in asking the individual county medical societies to support the same vigorously. Your committee also endorses the opinion of the Committee on Promotion of Efficient Laws on Insanity that its name be changed to the Committee on Mental Hygiene. Your Committee also endorses the suggestion that the House of Delegates more clearly define this committee's scope and aims, so that its activities will include all those of a purely medical nature. Since this committee still has a vital function to perform in assisting in putting on the statute books this $50,000,000 bond issue, we feel that it should continue, at least for the present, subsidiary to the Committee on Public Health Legislation.

7. Your committee, recognizing the great economic advantage of such a measure, heartily endorses the suggestion of the Commission on Conservation of Vision that each member of the Medical Society of our State interest himself, and advocate to his constituency, the importance of early care and proper follow-up treatment in all cases of eye injury. This commission has been quite active in preventing optometrists from arrogating to themselves undue authority in issuing certificates of ocular and visual efficiency.

8. The Commission on Cancer is making splendid headway. Your committee endorses the appropriation of $500 for the coming year for statistical study on cancer.

9. On suggestion brought forward by our president in regard to a change in the Constitution which will permit the Board of Trustees instead of the House of Delegates to arrange for the time of the annual meeting, your committee would recommend such action be taken. It is obviously impossible to foresee events which militate against a successful meeting a year hence.

(Signed) Walter M. Bortz,
J. Fred Wagner.

The President: I would suggest, if it meets with the approval of the House that this report be adopted section by section. The report of the secretary and treasurer, and the report on Medical Defense (paragraph 1), the report of the Committee on Medical Benevolence (paragraph 2), the reports of individual councilors (paragraph 3), the report on the president's address (paragraphs 4a and 4b), and the report of the Committee on Public Health Legislation (paragraph 5) were properly acted on by this committee. If I hear no objection, these paragraphs, including the suggestions submitted in the presidential address, will be received. If I hear no objection, the report in reference to the Committee on Promotion of Efficient Laws on Insanity (paragraph 6), will be adopted, also the report regarding the Commission on Conservation of Vision (paragraph 7). The report of the Commission on Cancer (paragraph 8) carries with it a recommendation for an appropriation of $500. I think it will be well to determine your action on this to-day, and refer it to the Board of Trustees. What is the pleasure of the House?

Dr. J. Newton Hunsberger moved that this portion of the report be adopted. Motion seconded and carried.

Dr. Alexander H. Colwell, Pittsburgh, moved the adoption of the report as a whole, with compliments for the efficient work performed by the committee.

Motion seconded by Dr. Hunsberger and unanimously carried.

Dr. Curtis C. Mechling, chairman, presented the following:

Report of the Reference Committee on New Business

1. The report of the Commission on Compensation Laws is approved as printed in the September Atlantic Medical Journal and the Program of the Seventy-seventh Annual Session.

2. The report of the Commission on Necrology is also approved as printed.

3. The report of the Committee on Lay Education is also approved as printed.

4. The report of the Committee to Report on the Open-Closed Hospital Situation is approved as printed. Recognition is here made of the large amount of work entailed in dealing with this vexatious problem and especially of the untiring and earnest work of Dr. Carey J. Vaux, who died during the year.

Resolutions Referred

(See Minutes House of Delegates, October 3, 1927)

1. The resolution on hospital laboratories is reported affirmatively, and the committee recommends its adoption.

2. The resolution on the expenses of conducting the annual State Medical Meeting is reported affirmatively, and we recommend its adoption.

3. The resolution on the regulation of the practice of medicine in Pennsylvania is reported affirmatively, and we recommend its adoption.

4. The resolution on public-health activities in the State and in the component county societies is reported affirmatively, and we recommend its adoption.

5. Resolutions on the appointment of a commission to confer with Governor Fisher on medical standardization is reported negatively.

6. The resolution on the reforestation program in the State of Pennsylvania is reported negatively.

(Signed) Samuel G. Logan,
Ward O. Wilson,
Curtis C. Mechling, *Chairman.*

The last portion of this report was considered section by section, and the following action was taken:

Dr. Mechling read paragraph 1 under *Resolutions,* and moved its adoption. Motion seconded.

Dr. Theodore B. Appel, Lancaster: I think there will be no question that the Freeman Commission will bring before the Legislature, and probably pass, a bill completely reorganizing the medical laws of the State. I do not think any resolution passed by this House will have any effect, and when you do not effect anything by a resolution, and in all probability the situation will be changed and modified within a short time, I question whether it is wise to take any action.

Dr. Fred M. Jacob, Pittsburgh: If the case is as Dr. Appel has suggested, I am perfectly willing to withdraw the resolution with the hope that in the near future the conditions can be remedied.

The President: Dr. Jacob is willing to withdraw his resolution, with the permission of the House, after hearing Dr. Appel's remarks. We will vote on the motion as to whether or not to approve.

Dr. M. T. Leary, Meadville, moved that the resolution be adopted. Motion seconded, put to a vote, and lost.

Dr. Mechling then read paragraph 2, regarding an appropriation by the State Society to help defray the expenses of the annual meetings, and recommended its adoption. Motion seconded.

Dr. Ira G. Shoemaker, Reading: I am not unaware of the motives that have inspired this resolution, and am not unaware of the expense to the component society entertaining the State Society. I will, therefore, take the liberty of suggesting two methods that have occurred to me for meeting this expense. One is by increasing the annual assessment. The Delaware State Society has raised its annual assessment to $25, while Pennsylvania's assessment remains one of the lowest among the state societies. Another method is to have a registration fee. Any member who begrudges the payment of a small registration fee does not have the interest of the Society at heart.

Dr. Walter F. Donaldson, Pittsburgh: For nine years I have been associated with the Board of Trustees and have attended the meetings regularly. I am thoroughly familiar with the work of the Board, and know that they have been straining to accumulate several funds, with which fact you are all familiar. It is the cherished wish of the Board of Trustees that when the Endowment Fund has reached a certain amount, the interest from that fund may be expended for just such things as this resolution calls for, but I assure you it will strain their heartstrings if they are called upon to pay an additional $1,500 for social entertainment at the annual meetings. I am thoroughly familiar with the motives back of this resolution, but I should not like to see hasty action on it at this time.

Dr. Clarence R. Phillips, Harrisburg: I would suggest that a councilor district entertain annually.

Dr. William H. Mayer, Pittsburgh: It is my opinion that the smaller societies should be in a position to entertain the State Society occasionally. When you talk of $1,500 defraying the expenses, I recall to your minds that we now have a Woman's Auxiliary composed of the wives, daughters, etc., of members, who have always been welcome visitors at our annual sessions, and this auxiliary must receive financial support when called upon to entertain visiting ladies. I would suggest, if you choose, that $1 be added to the State Society per-capita tax.

Dr. Harry W. Mitchell, Warren: Members of sixty-three component societies have been entertained for years at the expense of the members of six or seven counties in the State. This seems entirely too much to expect, and I think any arrangement which makes for a general distribution of the expense to the entire Society should meet with hearty approval. The Board of Trustees has no fund available at present to meet this expense.

Dr. Arthur B. Fleming, Tamaqua: I think it timely that an amendment be presented to this resolution, as follows: Be it hereby resolved that a fee of $2 be imposed upon the registrants at the annual session, which amount shall be applied to the entertainment of the Society. I move the adoption of this amendment.

Motion seconded by Dr. W. W. Lazarus.

The President: The question now before the House is the adoption of this proposed amendment. Is there any discussion?

Dr. William H. Mayer, Pittsburgh: Registration fees have been tried by other organizations with which I am acquainted, and proved unsatisfactory.

Dr. J. Newton Hunsberger: I wish to support Dr. Mayer.

Dr. Seth A. Brumm, Philadelphia: I was responsible for this resolution. I do not wish the House of Delegates to think that we do not wish to entertain the Society, but we thought it was fitting that such a resolution should come from the Philadelphia County Society rather than from a smaller county society.

I have great respect for the guardian angel of any institution, but there is nothing so deplorable as to have the accumulation of money overshadow other things. The registration at various State Society meetings, it seems to me, discloses a rather miserable representation from a membership of 7,600. What can we do to get a greater registration at our meetings? Apparently there is something the members need, and I have felt that there is no better way to stimulate interest than to put men on committees. I believe that if the various smaller societies become the hosts and assume the responsibility of entertaining the State Society, there would be an increase in registration. Of course we want an endowment fund, but it seems to me this should not take precedence over all other things.

Dr. Edward Pardoe, Johnstown: The Cambria County Medical Society, I feel sure, would heartily endorse the suggestion of Dr. Shoemaker that the money come, not from a registration fee, but by increasing the annual assessment. We have felt that we are not paying enough. We have recently raised our county dues from twelve to eighteen dollars a year, and I wish to tell you that we are ready for the House of Delegates to approve an increase in the annual assessment.

Dr. Seth A. Brumm: Speaking on the amendment, I agree with Dr. Shoemaker that an increase in dues is a good plan. It is true that we pay the smallest dues of any state society, but do not let us add a dollar here and a dollar there, but make it something worth while.

Dr. John B. McAlister, Harrisburg: I think it would be a mistake to establish a registration fee. An addition to the membership fee would be much better, for every member of the Society should help to defray the expense of the meetings.

Dr. J. Spencer Callen, Shenandoah: I agree with Dr. McAlister. The men who attend the meetings are sacrificing their work to be here.

The proposed amendment was then put to a vote and lost.

Dr. William L. Estes, Bethlehem: In former years there was a rule that all matters relating to finance should be referred to the Board of Trustees. I should like to know whether this matter should not properly be referred to that body.

The President: It is correct that the Board of Trustees has to do with appropriations, but the Board of Trustees, as the financial body, hold themselves open

always for suggestions from the House of Delegates. We can indicate to the Board of Trustees our wishes. I think this discussion has been of great importance. The matter has been discussed widely throughout the State, and now, having the presentation of opinions from all parts of the State, the chair is of the opinion that this is certainly in order, and that the final judgment of the House of Delegates can be transmitted to the Board of Trustees.

Dr. J. Newton Hunsberger: I would offer an amendment that the Board of Trustees be authorized to deduct one dollar from the dues of each county medical society member for the purpose of meeting the expense of these meetings.

The President: The General Fund of the State Society does not contain enough money to meet any action such as is contemplated, so the Chair feels that it would be inadvisable to accept such an amendment at this time.

Dr. John M. Quigley: I would offer an amendment that the Board of Trustees be authorized to make an assessment of one dollar or more per capita to meet the expenses of the annual session.

Dr. Theodore B. Appel: I wish to have some ruling, or information. As I understand it, the Board of Trustees recommend to the House of Delegates a per-capita assessment for the next year. Under these conditions it seems to me that any discussion at present, in order to change the action of the Board of Trustees, had better be postponed until the action of the trustees is recorded. I think most of the trustees are present and have heard this discussion. It seems to me the whole matter of appropriations and of handling this condition had better be referred to the Board of Trustees, who are much more familiar with the finances of the Society than is the House of Delegates.

Dr. William L. Estes supported Dr. Appel.

The President: The Chair is of the opinion that for the sake of expedience the matter had better be referred to the Board of Trustees for action next year. The question now before the House is on the amendment, that the Board of Trustees be authorized to add an assessment of one dollar or more per capita to meet the expenses of the annual session.

The motion to adopt Dr. Quigley's amendment was put to a vote and carried.

The resolution as amended was then put to a vote and unanimously carried.

The President: This matter is referred to the Board of Trustees.

Paragraph 3 under *Resolutions* was then unanimously adopted.

Dr. Mechling then read paragraph 4, relating to public-health activities, and moved its adoption. Motion seconded.

Dr. Theodore B. Appel: I wish to say that the first part of this resolution is fine, and to call attention to the inadvisability of adopting the second portion of this report. It seems to me it would be better policy to give the commission to be appointed free rein. While I do not have the privilege of offering a motion in the House of Delegates, I should like to suggest that some one amend the report by striking out the second portion.

Paragraph 4, under *Resolutions,* was then acted upon, the first section being adopted and the second lost.

The President: With this stricken out, we will act on the paragraph as a whole.

Paragraph 4, as amended, was adopted.

Dr. Mechling then read paragraph 5, and moved that it be adopted. Motion seconded.

The motion to adopt the negative report of the Committee carried.

Dr. Mechling then read paragraph 6, regarding reforestation.

Dr. J. Newton Hunsberger moved that the resolution as originally presented to the House of Delegates be approved. Motion seconded.

Dr. Hunsberger: In 1891, the Pennsylvania Forestry Commission was formed, and I wish to pay a tribute to Dr. Rothrock for his work. It was not until 1898 that the State appropriated money with which to purchase land for reforestation. I believe this House of Delegates should support this matter.

Dr. M. T. Leary: It is my impression that the Attorney-General has ruled that the bond issue be submitted to the voters as a whole, the road-bond issue, the building issue, and the reforestation plan.

Dr. Walter F. Donaldson: I think the people of the State have a right to look to this Society for the approval of a bond issue which is for the benefit of those who are sick, but I am afraid we will only vitiate the influence of the Medical Society of the State of Pennsylvania if we express an opinion on all bond issues. I hope you will not approve the specific amount of money that it is proposed to have set aside for this purpose.

Dr. William L. Estes: I wish to ask whether or not the question before the House is the adoption of the report of the Committee. I wish to endorse Dr. Donaldson's remarks absolutely. I do not think this Society has anything to do with the recommendation in regard to reforestation, although it does affect public health indirectly.

Dr. Curtis C. Mechling: The Committee considered this resolution and reported unfavorably for two reasons. First, for the reason Dr. Donaldson mentioned, and second, because it was not felt that it had much to do with flood control. We have found that engineers are of no single opinion regarding flood control.

The President: We will take a vote now upon the acceptance of the recommendation of the committee. They submit a negative report; will you accept this?

The negative report of the Committee was accepted.

Dr. Mechling: Our committee approves in toto the report of the Committee on Necrology and moves its adoption.

Motion seconded and carried.

Dr. Mechling then read the portion of the report relating to the Committee on Lay Education and moved its adoption. Motion seconded.

The motion to adopt this portion of the report was put to a vote, carried, and referred to the Board of Trustees.

The paragraph in reference to open and closed hospitals was adopted as read, and the report as a whole, as amended, was then adopted.

Dr. Adam J. Simpson, chairman, Chester, presented the following:

Report of the Reference Committee on Scientific Business

The Reference Committee on Scientific Business has had two items referred to it by the House of Delegates, and submits the following report.

1. The committee appreciates that more could be accomplished by the Committee on Laboratories if funds were appropriated for a representative of that committee to visit laboratories. Therefore, your committee approves the request of the chairman of the Committee

on Laboratories for an appropriation to carry on the necessary investigation.

2. Inasmuch as the work of the Commission to Confer With Secretaries of Health and Welfare seems to be duplicated by that of the Board of Trustees, we recommend that the Commission be discontinued.

(Signed) ADAM J. SIMPSON, *Chairman*,
HENRY W. SALUS,
WILLIAM J. ARMSTRONG.

This report was considered section by section, and the following action was taken.

The first paragraph was adopted as read.

Dr. Simpson then read the second paragraph and moved its adoption. Motion seconded.

THE PRESIDENT: I will now call for a vote on Dr. Simpson's motion to adopt this portion of the report.

Motion put to a vote and carried.

THE PRESIDENT: If there is no objection, the report will be received as a whole. This completes the committee reports. The Chair, on behalf of the House of Delegates, desires to express its thanks to the members of these committees for their faithful and efficient work. We will now take up the matter of new business and receive the delegation from the Board of Trustees.

DR. FREDERICK J. BISHOP, Scranton: It is customary for the Board of Trustees to make recommendations regarding the annual dues and the apportionment of same for your approval or disapproval. We make the following suggestions: That the allotment be one dollar to the JOURNAL, ten cents to the Medical Defense Fund, and ninety cents to the Medical Benevolence Fund, the balance to the General Fund.

On motion of Dr. Krusen, duly seconded and carried, this recommendation was unanimously approved.

SECRETARY DONALDSON presented the following communication from the Executive Secretary of the Bureau of Health and Public Instruction of the American Medical Association:

Dear Doctor Donaldson:

"At the annual meeting of your State Medical Society, which is to occur soon, we wish very much that you would call attention to the celebration of AMERICAN EDUCATION WEEK, which is to occur November 7 to 13. This celebration is planned by the National Education Association, with which the American Medical Association has been in such cordial and effective coöperation for the last fifteen years, assisted by the American Legion, the American Bar Association, the American Medical Association, and some other national organizations.

"We are sending you a few copies of a circular sent to us by Secretary Crabtree of the National Education Association, whose office is in Washington. Copies of this leaflet and also more detailed information as to the celebration of AMERICAN EDUCATION WEEK can be had by any physician who will write to the National Education Association, Washington, D. C., for it.

"It is significant that the first day of this week is to be devoted to health. Every physician ought to be earnestly and actively engaged in the promotion of this celebration in his community, and we trust that you will urge this on your members.

Yours very sincerely,
(Signed) JOHN M. DODSON, M.D."

THE PRESIDENT: If there is no objection, this communication will be submitted to the Committee on Public Relations, Dr. Krusen, chairman. Is there anything further to come before the House?

DR. WILLIAM H. MAYER: Inasmuch as our sister state, Kentucky, is in session at present, I move that the felicitations and congratulations of this Society be wired by our Secretary to the Medical Society of Kentucky. Motion seconded and carried.

DR. FREDERICK M. BALDI, Philadelphia, moved a rising vote of thanks to the Allegheny County Medical Society, to its president, Dr. Henninger, to Dr. Heckel, and to Dr. Robert L. Anderson, chairman of the local Committee on Arrangements for their splendid hospitality. Motion seconded and unanimously carried.

THE PRESIDENT: If there is no other business to be presented, the seventy-seventh annual meeting of the House of Delegates of the Medical Society of the State of Pennsylvania will now stand adjourned.

Adjournment *sine die* at 11.30 a. m.

ARTHUR C. MORGAN, *President*,
WALTER F. DONALDSON, *Secretary*.

MINUTES OF THE GENERAL MEETINGS

Tuesday, October 4, 1927

The first General Meeting of the Seventy-seventh Annual Session of the Medical Society of the State of Pennsylvania was held in the Lounge of the University Club, Pittsburgh. The meeting was called to order at 10.15 a.m. by the president, Dr. Harry W. Albertson of Scranton.

THE REVEREND ROBERT MACGOWAN, D.D., Pastor, Bellefield Presbyterian Church, Pittsburgh: Almighty God, we bow before Thee in reverence and humility. We are the works of Thy hand and in Thee we live and move and have our being. The mystery of our nature is yet beyond our understanding, but we know that Thou art the health and strength of our life. Oh Thou great Lover of men, bless all who labor to heal the hurt of our humanity. Make their hands skillful, their hearts responsive, and their souls sensitive to Thy touch. Help them in their researches and deliberations until they come to the knowledge of Thy secret purpose for all mankind, for to fear Thee and to depart from evil is health to the navel and marrow to the bones. We thank Thee for the relief of human suffering and for great minds in all ages dedicated to this cause. Help us to carry on their labors till that day when there shall be no more pain, and sorrow and sighing shall flee away. Thou art the health of our countenance and in Thee do we trust. Through Christ our Lord, Amen.

THE PRESIDENT: We shall next be favored by an address of welcome by Mr. Daniel Winters, president of Council of the City of Pittsburgh, who will represent the Mayor on this occasion.

MR. DANIEL WINTERS: There is very little one can say after listening to the beautiful prayer of Dr. MacGowan. I did not come out here to make an extended speech. Mayor Kline is out of the city, and I was asked to come here and take his place. I am very glad to do that, and glad to say to you how much Pittsburgh does welcome you gentlemen of the medical profession. Pittsburgh appreciates fully your mission in life, and appreciates fully what your work means to humanity and to our city. Within the last few years we have awakened as never before to the need of the help to be obtained from your profession in the affairs of the city. That is particularly true in our City Hospital at Mayview, a hospital that takes care of many of our poor people. Under the direction of Dr. Hammers, who organized the physicians, we have made wonderful strides there in improving its service to the people of Pittsburgh. We have transformed the hospital, under his management, most amazingly. A few years ago it was considered a place of political barter. We had superintendents who were not medical men and had no knowledge or conception of their duties in that respect; so Pittsburgh is to be congratulated upon the change. I want to pay tribute to the men of your pro-

fession who have established clinics there, and who go down every week to render service and to use their skill and their talents purely in the interest of humanity. If I say anything today it will be to stress what a wonderful work your profession is doing for mankind. All our hopes are centered in you, all hope of preserving the life and health of the community is in your hands, and I know of no class of men who have a higher mission than the physicians.

You picked out a good time for your convention. Pittsburgh, knowing that you were coming, managed to have the World Series here. If you care to go, I hope you will be able to get tickets, but so far every one I have come in contact with has had his check sent back.

Let me say again, in the name of the Mayor, that the City of Pittsburgh welcomes you. We hope your convention will be well attended, and that the interchange of ideas will be beneficial to yourselves and to mankind in general.

The President: It is with a great deal of pleasure that I introduce to you at this time Dr. Charles H. Henninger, president of the Allegheny County Medical Society.

Dr. Charles H. Henninger: It is indeed a great honor and privilege that I have this morning in welcoming you to the City of Pittsburgh for your seventy-seventh annual session. I am very much pleased to know from the former speaker the high regard in which our profession is held. He has welcomed you to the city, and I should like to go a little further and give you the city for the week. Ladies and gentlemen, the City of Pittsburgh is yours for the week!

I want to call your attention to some of the things that have been done for your entertainment, but first, I want to speak of the wonderful work that Dr. Simonton and his committee have accomplished in furnishing you a program that I know will meet the requirements of every one here. Dr. Anderson has been busy all summer preparing for this meeting, and we hope you will enjoy it. We hope you will enjoy the meeting tomorrow night, and we welcome you to all the activities of the convention. Every hospital in the city has requested me to extend to you a hearty welcome and to invite you to make full use of the hospitals while you are here. Dr. Huggins, Dean of the Medical School of the University of Pittsburgh, has asked me to extend an invitation to visit the varied interests of the University—the Children's Hospital, the Magee Hospital, and all the other activities of the medical center. Dr. Huggins asks for your inspection and constructive criticism of this plant.

We are glad to have you here, and hope you will enjoy yourselves and be benefited.

The President: For a number of years it has been my pleasure to meet with the Committee on Scientific work. A few of you perhaps realize just what the chairmanship of this committee means. If you ever head it you may expect to start in at the close of the annual session with one single thought—the excelling of the previous year's program. For six years Dr. Simonton has done this. In my association with him I have said many, many times, "When is the end going to be? You cannot make every year's program better than the last." Yet he has succeeded in doing it, and this year's program is no exception.

I take great pleasure in presenting to you Dr. Thomas G. Simonton, Chairman of the Committee on Scientific Work, who will explain to you the scientific program for this year.

Dr. Thomas G. Simonton: We are fortunate this morning in having with us one of our own members, a past president of the American Medical Association, Dr. George E. deSchweinitz, and Dr. Jabez N. Jackson of Kansas City, who is president of the Association; also Dr. Morris Fishbein of Chicago, Editor of the *Journal of the American Medical Association* and of *Hygeia*, who will deliver a popular address on Wednesday night, and who will also take part in the Secretaries' Conference. Dr. Jackson will appear on the program of the Section on Surgery this afternoon, and will also make an address at the Conference of Secretaries this evening.

The members of the Committee on Scientific Work have almost had nervous prostration this year. Between our hopes and fears of the World Series taking place here this year at the time of the meeting, and remembering the effect of the convention of the American Legion on our meeting in Philadelphia last year, we were driven almost frantic. But thanks to the scalpers who have obtained most of the Series tickets, we feel that probably the counterattraction may not prove so great as we thought.

This year we are opening another section—the Section on Urology. It will have two sessions, one Wednesday afternoon and one Thursday morning, and one of their sessions will be combined with the Section on Pediatrics. We now hold two general and six section meetings. The Section meetings are held at the same time, but as we are operating under the period system, you can look at your program, find what you are most interested in, and tell right to the minute at what time to attend a meeting to hear a certain speaker.

I want to call your special attention to one of the outstanding program features. The wonderful results from the use of liver extract intravenously in cases of eclampsia is going to be a spectacular rival of the use of insulin in diabetic coma. We hope you will not miss that presentation, because there will be much written about it. Publication has been withheld because we wanted it to come out at the time of the meeting of this Society.

This year we are making a special effort in the scientific exhibit. Every one of the six sections will put on special demonstrations in the Fifth Avenue end of the Schenley Hotel. Demonstrations will be presented at certain fixed hours, and in a special room. These are new features. Have you ever seen in the scientific exhibit of the A. M. A. or any other society a complete *en masse* evisceration, including the brain and neck? Today such will be displayed with all the organs removed *en masse in situ*, with pathology that has not been disturbed. In the autopsy room you could not see it to as great advantage. Every day a demonstration in fresh pathology will be given by the pathologists of the different hospitals.

It is always necessary to make a few remarks about the commercial exhibit, which is located in the ballroom of the Hotel Schenley. The exhibitors pay for space, and ask in return only that you register at their booths. So we ask everyone of you, during the three days you are here, to give fifteen to thirty minutes of your time when not in the section meetings to looking over the commercial exhibit. You may have little idea what a help it is to the Society, and the more men that register, the better the exhibit will be next year.

The University Club has given over its building to the Medical Society of the State of Pennsylvania for three days. They serve club breakfasts at a reasonable rate, as well as luncheon and dinner. We hope you will

make use of the club in every way. All that is necessary to be admitted is your registration button.

The Scientific Program Committee feel that they have presented to you this year a program that is better than anything we have had in the past.

THE PRESIDENT: It is with much pleasure that I present Dr. Albert J. Bruecken, chairman of the Scientific Exhibit.

DR. ALBERT J. BRUECKEN: There is ample space for the scientific exhibit, and for a considerable number of attendants, but since many of the scientific sections have scheduled demonstrations, we have provided a separate room where an exhibitor with his audience can retire for a private demonstration. The room will hold a considerable number, and affords a great advantage: it does not disturb the other exhibitors during their scheduled exhibits.

You have been given a schedule including each demonstration, and if you are particularly interested in any particular one, make it a point to get to the demonstration room on time. There are some exhibitors who have continuous demonstrations, so you will find something of interest all the time.

The Scientific Exhibit avoids the grotesque, because it is designed to be of practical use. For instance, today we have the *en masse* evisceration of organs, an extremely interesting case of gumma of the hard palate, which was the first symptom presented, syphilitic ulceration of the tonsils, syphilitic laryngitis, gummata of the spleen, and syphilitic ulceration of the cervix uteri, vagina, and os.

THE PRESIDENT: A very pleasing feature of the annual session, wherever it may be held, is the social side of the meeting. The Allegheny County Medical Society has provided wonderful entertainment for the Society members, as well as for the ladies and guests.

It is with great pleasure that I ask Dr. Anderson, chairman of the local Committee on Arrangements, to make announcement regarding the entertainment provided for us while we are here.

DR. ROBERT L. ANDERSON: Allegheny County has tried to provide ample entertainment and has spared no effort to make your stay here pleasant.

This afternoon at 2 o'clock, at the Pittsburgh Athletic Association, directly across from the Soldiers' Memorial Hall, Dr. John L. Davis of New York, will address the Woman's Auxiliary and all visiting ladies. Dr. Davis is a well-known humorist; he has nothing serious to tell you, but he will be well worth hearing.

At 8 p.m. there will be dramatic readings and music for the visiting women in the same room at the Athletic Association. At the same hour at the William Penn Hotel there will be a smoker. A play will be given entitled "Hospital Follies of '27." At 9 o'clock Dr. John L. Davis will address the members in the same room following the other meeting. At 10 o'clock there will be a supper and smokes.

Tomorrow morning at 9.30, a general session of the Woman's Auxiliary will be held in the Pittsburgh Athletic Association. All visiting women will be welcome. At 2 p.m. tomorrow, busses will leave the Pittsburgh Athletic Association to take the visiting ladies for a drive and to the country home of Dr. and Mrs. Edward B. Heckel, where tea will be served.

At 7.45, Wednesday night, the public meeting will open in Memorial Hall with moving pictures, one that has to do with periodic health examinations, and the other with the prevention and cure of diphtheria. At 8 o'clock Dr. Morris Fishbein will deliver an address on "Fads and Quackery." You should urge all your friends and patients to come to this meeting.

Thursday the ladies will have an all-day party at the Pittsburgh Field Club. Busses will leave the Athletic Association at 10.30 a.m.

The free auto-parking space is directly across Forbes Street from the Schenley Hotel. There will be two attendants there at all times.

The University Club has been turned over to us. The main dining room upstairs is reserved for members and guests of the Society.

THE PRESIDENT: It has been the pleasure of the Medical Society of the State of Pennsylvania in past years to have as our guests at this first General Meeting the members of various other state societies, whom we are always glad to welcome and to have sit among us on an occasion like this. We are not always satisfied to have them just sit among us. I have this morning the pleasure of introducing to you the president of the New York State Medical Society, a very active worker, and one with whom it has been my pleasure to sit in Tristate Conferences many times. It gives me great pleasure at this time to introduce Dr. James E. Sadlier, president of the Medical Society of the State of New York.

DR. JAMES E. SADLIER (POUGHKEEPSIE): It gives me as well as my associates, the vice-speaker and the executive officer of our Association, Dr. Card and Dr. Lawrence, great pleasure to be with you here today and listen to your deliberations. No state medical society in the Union has a finer history of past accomplishments than yours. I doubt if any place in the world has a finer record than the State of Pennsylvania, and in our Tristate Conferences for the past three years, we of New York have been deeply conscious of the fact that the State of Pennsylvania is distinctly in line with all the newer phases of medicine, public health, and the prevention of disease.

I want to speak of that little organization developed three years ago whereby the officers of your great State Society and of the Societies of New Jersey and New York, got together once in four months to discuss subjects pertaining to public health and the great problems of organized medicine. I know of nothing that has been a greater incentive to us of New York State than the splendid discussions that have come out of the Tristate Conferences. It seems to me as though in this day, when coöperation should be greater than ever before, organized medicine should recognize that such conferences as we are having are productive of great good.

We thank your officers for the invitation that has been extended to us, and we hope to get much good from your deliberations.

THE PRESIDENT: If there are members of other state medical societies present, I will ask them to report at this time.

THE PRESIDENT: It was about 1915 that the Trustees of the Medical Society of the State of Pennsylvania thought of a very fitting way in which to pay some little tribute to the retiring officer of this Society by presenting him with an appropriately inscribed gavel. We have with us this morning a number of members who have served as presidents of this Society prior to 1915, and the Board of Trustees thought it fitting at this time that these men should receive a token of appreciation of the work they did during their respective terms of office.

Dr. Adolph Koenig served this Society first as its secretary, then as editor of the *Pennsylvania Medical*

Journal, and in many capacities, on many committees, always with an ambition to better the profession. So it is with much pleasure that I ask Dr. A. H. Colwell to present in the name of the Medical Society of the State of Pennsylvania to this most distinguished ex-president this gavel.

Dr. Alexander H. Colwell: In the small area of this envelope in my hand I have the record of one of the most distinguished physicians of this State. Born in Helvetia, Switzerland, in 1855, he came to this country at the age of one year. He graduated from Bellevue College Medical School in 1879, and has been in the practice of medicine for 49 years. In 1886, in collaboration with a few of his colleagues, the *Pittsburgh Medical Review* was first published, in an endeavor to create purity of advertising in medical publications. Dr. Koenig continued to be coeditor, and finally sole editor, of this publication until 1895, when its name was changed to the *Pennsylvania Medical Journal.* In 1897 this journal first published the transactions of the Medical Society of the State of Pennsylvania and distributed these transactions to its members, this being the first instance in the history of the United States that this had been done. From 1897 to 1904 Dr. Koenig continued his enormous service through the individual efforts of himself and his wife. After the day's work was done, from eleven at night until two or three o'clock in the morning, he and his faithful coworker produced this journal without any other aid—a stupendous achievement of physical energy alone. During this time Dr. Koenig's name became known from the Atlantic to the Pacific as an advocate of purity in medical journalism, and in 1904 this journal, of which he was sole owner and editor, was sold to the Medical Society of the State of Pennsylvania for the consideration of $1.00, and with the agreement that its pages should never be used to advertise proprietary, trade-marked, or quack medicines of any kind.

Pennsylvania, therefore, possesses one of the most distinguished medical editors the country has ever had, a man whose single influence has had a tremendous effect on medical publications in this country. It is therefore with great pleasure, and cognizant of the great honor, that I, as spokesman for the Medical Society of the State of Pennsylvania, present this gavel to Dr. Adolph Koenig, an emblem of the authority which he once wielded in this body as its president, a symbol of the authority which he still wields by virtue of the record of his blameless life.

Dr. Adolph Koenig: Gentlemen, I thank you for this evidence of your favor. I have been happy all these years of my medical life because I have endeavored to bring happiness, through unselfish service, to others. Only such service can bring joy. It is a contradistinction from pleasure, which is happiness in only one sense; but when it is unselfish service to others, then it immediately reverts on the individual and he also becomes happy. I think I have been, in spite of my misfortunes, the happiest man I know, because I have (and I may say this without being accused of having an exalted ego) for these forty-nine years continually tried to make others happy, as do all of you in the medical profession. We do not have to look far to make somebody happier than he was before. That is the great job of the medical profession.

I shall cherish this gavel as an heirloom. I hope the time will soon come when among my descendants there will be four in the medical profession—and the fifth one would have been there but for an untimely cutting down during his first year as a medical student. However, the fact that all of my children propose to become members of the medical profession I think shows what I consider this medical life to be in the way of happiness. I thank you, gentlemen, for this honor.

The President: Another president who has served this Society with distinction and with dignity is one of our very dear friends, Dr. William L. Estes, who presided over this organization during the year 1907. I will ask Dr. Howard C. Frontz, past president of the Society, to present Dr. Estes at this time with a gavel in the name of the Medical Society of the State of Pennsylvania.

Dr. Howard C. Frontz: Dr. Estes, twenty years ago you served this Society as its presiding officer, and I am quite sure you served well. You represent a group of members and former presidents (in my memory, all dead) who served in this Society a number of years ago—such men as H. B. McCormick, W. S. Foster, T. D. Davis, John B. Donaldson, E. E. Montgomery, W. M. Weidman, W. B. Lowman, F. P. Ball, and John B. Roberts.

In a twentieth-century span of life you are not an old man—you are still quite young enough to step along with some of us young fellows. We are honored to have you still with us, and we trust you may have many more years of health and happiness.

It is my very great pleasure, on behalf of the Medical Society of the State of Pennsylvania, through the Board of Trustees, to present to you this gavel in recognition of your valuable service to this Society.

Dr. William L. Estes: I appreciate more than I can tell you this recognition of what little service I was able to give in connection with or following the work of the distinguished men whom Dr. Frontz has mentioned. As Dr. Koenig has said, the recompenses of life lie in the service we can give—the pleasure and satisfaction we feel in having in a measure discharged the duty which we conceived that we owed to our fellow members and to humanity. And after all, Mr. President, the satisfaction that comes to us in old age comes from the fact that we have been faithful, have been loyal, and have tried to carry out what we believe to be for the good of our fellowmen and the associations with which we are connected. Again I thank you.

The President: Dr. Theodore B. Appel, it has been my pleasure to have served with you for many a year. The service you have rendered to the medical profession of the State of Pennsylvania bears some mention at this time. You became an active member of the Medical Society of the State of Pennsylvania in 1896. In 1897 you served in the House of Delegates of the Society, and from that time to the present you have been constantly in the official family of the Society. We recognize the honorable service you have rendered in this period of time, and we, the officers and members of the Medical Society of the State of Pennsylvania, wish to show our appreciation of your very valuable service, carried on so long and so successfully. We know of your intellectual qualifications, and we value always your very sound judgment. It gives me great pleasure at this time to present you this gavel in recognition of the service you have rendered to the organized medical profession of Pennsylvania and the American Medical Association.

Dr. Theodore B. Appel: I appreciate deeply this memento of service. When I served as president of the Society, it met in Pittsburgh, and I feel it is to a certain extent appropriate that eighteen years later, in Pittsburgh, this recognition should come.

All my professional life I have been interested in organized medicine. I think that my idea of devoting myself to the practice of medicine came directly from

association with Dr. Alexander Craig, long secretary of the American Medical Association. Following his example, I felt the importance of active participation in county and state associations, and I have never regretted it. I believe in organization. I recognize the duty that organized medicine owes to society, and while a great part can be discharged through the personal contact of the individual physician with his patients, it seems that through organization alone we can reach a fuller understanding of our obligations. If I have accomplished anything, Mr. President, for this Society, it has been in pursuance of that purpose.

Dr. Frontz said a few words in regard to former members with whom Dr. Estes served, recalling to mind those men who have passed to the Great Beyond who were friends of mine and who did such good work. Those of you who are old enough to have served long I think realize the contrast between the Medical Society of the State of Pennsylvania twenty years ago and now, and I am sure you appreciate the fruit of the work of those men whom Dr. Frontz just mentioned. Mr. President, I thank you.

THE PRESIDENT: The next presentation is one in which I have a keen personal interest, because Dr. Lewis H. Taylor comes from the county in which I was born, and because ever since I began my medical career he has been an inspiration to me. We know him in northeastern Pennsylvania as the father of the medical profession. We love him dearly, and you will pay a very fitting tribute to a man of high esteem in northeastern Pennsylvania, when Dr. Morgan, whom I will ask to do so, presents to Dr. Taylor a gavel on behalf of the Medical Society of the State of Pennsylvania, for his service as President of this organization during the year 1912.

DR. ARTHUR C. MORGAN: Dr. Taylor, the last time I met you before our meeting today was on the grounds of the Irma Country Club, at a meeting of the councilor district which you grace so well. Your service has been long, faithful, and sincere through the years in which you have been connected with the Medical Society of the State of Pennsylvania and the Luzerne County Medical Society. The Luzerne Society is outstanding because of its devotion to duty, following your example of faithfulness, day in and day out, in season and out of season. When the State Society, recognizing that they owed you the best they could give you, made you president in 1912, you served faithfully and well.

This gavel is a badge of authority. You needed not a gavel of this sort because you ruled with loving kindness. Indeed, kindliness and friendliness were then, and always have been, the outstanding features of your career. This emblem of authority shows that you have ruled and reigned in our hearts, not only before 1912, but since. May you be spared long to the organized medical profession, and may you grace our annual sessions with your presence for many years to come.

DR. LEWIS H. TAYLOR: I wish I had fitting words to express my appreciation of this token, and of all the kind words that have just been said. It has really been a great honor to have served with the men of this Society, not only those mentioned by Dr. Frontz, but others, and I appreciate very highly that honor. But perhaps I might feel it a greater honor if all that has just been said of me were entirely true. In fact, I almost failed to recognize myself in the description that has been given by our president-elect.

I do indeed appreciate all this. I have tried in a way to be faithful to the medical profession, and as Dr. Estes has said, I hope to continue. If those of us who have passed a number of years in our work will strive on and fail not, we may look forward to many years of meeting again, showing how far the Gulf Stream of our youth may flow into the Arctic currents of later life.

We felt in 1913 that we had reached a high point in our work, and that perhaps that Philadelphia meeting was the best we had had at any time—and it was. But a number of years have passed since then, and as each age profits by the experience of the preceding age, so our Society is developed. We feel now that we have indeed reached the highest point—but not the highest point we shall reach. So I congratulate all those who have the opportunity of being here today, and I thank you most heartily for your kind words and for this token.

THE PRESIDENT: For many years there has been among us one to whom we have all gone for advice. Particularly is this true of parliamentary advice. Perhaps no member among us is more outstanding in his parliamentary knowledge than Dr. Edward B. Heckel. Dr. Heckel's ability has carried him beyond the work of the Medical Society of the State of Pennsylvania, and today he is chairman of the Board of Trustees of the American Medical Association. It is with great pleasure, indeed, that I ask his long-time friend and coworker, Dr. William H. Mayer, of Pittsburgh, to present to Dr. Heckel, in the name of the Medical Society of the State of Pennsylvania, a gavel for the service which he rendered so diligently and so well for many years to the organized medical profession, and particularly during his service as president of this organization during the great change in our Constitution and By-Laws in 1913-1914.

DR. WILLIAM H. MAYER: I am deeply conscious of the honor that comes to me in being called upon to present this gavel to one who not only held the presidency of this organization in 1913-1914, but who since then, through his valiant efforts for those things which are right and good in medicine, and generally in all things, has gone forward and is now chairman of that very active and honorable body of men who administer the affairs of one of the greatest altruistic organizations in the world—the American Medical Association.

Dr. Heckel, your kindly counsel to all of us has filled us with affection for you, and it stirs one with emotion to think of the long time that you have spent working for others. Someone has said that the mechanism of character foundation is based solely upon the extra effort we expend upon that which we do for those around us. Dr. Heckel, your career exemplifies that. I have the honor, sir, to present to you this gavel.

DR. EDWARD B. HECKEL: Within the classic atmosphere of a University Club it is quite fitting to resort to the use of classic language. Cicero once said: *"Gratus animus est una virtus non solum maxima, sed etiam, mater virtutum omnium reliquarum,"* which translated into modern English reads, "A thankful heart is not only the greatest virtue, but the parent of all other virtues."

I accept this, once the symbol of authority, in my hand, with sincere gratitude and full appreciation of all that it conveys, and with the promise that it will be treasured and preserved and handed down to the first male descendant in my family, my grandson, who bears my name, and with the hope that there it will be treasured as a fitting heirloom.

DR. IRA G. SHOEMAKER: Mr. President, it appears that you are next. A number of years ago I was fortunate enough to be elected to the official family of this Society, and when I was introduced to that body I found you were one of its members. History is

not written within a few years, nor within the lifetime of the individual, but it comes after he is gone. So it is ill-fitting for me to recount your many activities in a well-spent life, your devotion to all that is good in organized medicine, and especially the financial groundwork of our Society. Many of us remember the years our Society was at a very low financial ebb and how, mainly through your efforts, while acting as chairman of the Finance Committee, you have been able, through collaboration with some of your coworkers to bring the Society up to a very substantial financial basis. As a reward for what you have done, you were elevated to the very high and exalted position which you have occupied during this year. In order that you may not forget that you have been with us and are now a "has-been," it is my great pleasure, on behalf of the Society, to present this little token which the others have received, that you may place it on your wall and looking at it remind yourself, "I am a has-been; I am one of the other fellows."

Dr. Harry W. Albertson: Dr. Shoemaker, I thank you, indeed, for your kind remarks. I want to thank the entire membership of the Medical Society of the State of Pennsylvania for the signal honor they have conferred upon me—one who feels himself most unworthy of such honor. It has indeed been a pleasure to serve you, and although you have presented me with this gavel and said, "Now you are a has-been," I am not going to have it that way. Until they put me under the sod, I will not be a has-been. My interest in the welfare of the Medical Society of the State of Pennsylvania has grown with my years and will continue to grow as long as I am able to breathe.

It is with a great deal of pleasure that I accept this gavel, with the assurance that I will always treasure it and pass it on to my posterity. I had the honor in February of being presented with a like emblem from the fellow members of my county society. I have arranged to have both of these gavels framed, along with other mementoes of my activities, and passed on to my children, simply to remind them that I tried to do the best I knew how.

And now, gentlemen, I am in reality, as has been said by Dr. Shoemaker, a has-been, so far as my official capacity is concerned and it is with no small degree of pleasure that I introduce to you my very worthy successor.

Dr. Morgan, you, like many of the other war horses who have been honored here this morning, have served for many years faithfully and well in various capacities in the Medical Society of the State of Pennsylvania. It has been my pleasure to have served very intimately with you during the past year. You have gone about in your visits doing good as only you could do good; but you have made me smile many times because you have referred to yourself during the past year as the spare tire. Now the spare tire on my car is very necessary. I usually put on one that has the rubber all worn off, and needless to say when I put on the spare for the regular tire it does not get very far. But Dr. Morgan in that sense, fellow members, is not going to be a spare tire any longer. He is now put into regular service. He will grace the chair of president of the Medical Society of the State of Pennsylvania with honor and distinction, and we may well feel proud that he was thus chosen.

It is with pleasure indeed, that I extend to you this, the gavel of actual authority, and assure you of my undying and ever faithful service, and my readiness to assist you and the organized medical profession in the State of Pennsylvania at any time.

Dr. Arthur C. Morgan: I deeply appreciate all that has been said to me, and hope to merit this confidence at the end of my term.

There is today in our audience a gentleman whom I shall introduce as typifying a host of others to whom equal tribute of respect should be given for the wonderful work they have accomplished in the past decades. We have with us today Dr. Henry Clay McKinley, secretary of the Somerset County Medical Society during its entire existence—thirty-seven years. The Doctor is as young as the rest of us. He is going to celebrate his eighty-seventh birthday tomorrow, and I feel, therefore, that it is especially fitting at this time to pay tribute to Dr. McKinley personally, and as typifying all of the fathers of medicine in Pennsylvania to whom we owe such filial love, devotion, and respect. Dr. McKinley notified his county society a short time ago that he did not "choose" to become a candidate for secretary next year. He is charged with the honorable duty of writing his memoirs, and my first official duty will be to charge the Somerset County Society that this young man shall be reminded of his duty, and that he shall discharge that duty by performing well the work of writing his record of thirty-seven years as a county secretary. In tribute to Dr. McKinley, will you all rise.

Dr. Henry Clay McKinley: I have been taken by surprise, and I cannot express my appreciation of the honor you have granted me today. I was asked by one of the members of our local society about four months ago, "When were you elected president of this society?" I said "Never." "Well," he said, "it is about time you were elected. You are getting along in years and if we do not soon elect you you will not be elected at all." But I want to say right here that I was never more surprised than at this action this morning. I could not have been more surprised if I had been hit on the head with one of these little mallets they are passing around. I am no longer so young as I used to be, but I want to live a little longer.

Mr. President, and fellow members of the medical profession, I am ever proud that I entered the profession, and I ask that you who follow hold in high esteem the integrity and loyalty of the medical profession of the State of Pennsylvania.

It has been no small task for me to serve as secretary these thirty-seven years. Sometimes I have been tempted to resign, but I did not. But I would not take anything for what I have received here today. I would like to live during the incumbency of my successor, which, I hope, will be as long as my own; but of course I shall not.

I feel this action of yours this morning is not only an honor to me, but to every secretary of a county medical society.

Dr. Arthur C. Morgan, Philadelphia, delivered the President's address. (See October issue, Atlantic Medical Journal.)

President Morgan: The next order of business will be the presentation of a gentleman whose name is well known to us, and who has already established himself in the hearts of the medical profession of the country because of his splendid efforts in the organization of the medical profession and the progress of science. We are honored to have him with us personally, and also in his official capacity as president of the American Medical Association.

It is my privilege, honor, and duty to introduce to you

the president of the American Medical Association, Dr. Jabez N. Jackson, of Kansas City.

Dr. Jabez N. Jackson: It is truly to me a great pleasure to be able to be with you this morning, although I must say in advance that I am here absolutely in defiance of the orders of my physician and my family. Unfortunately, I attempted to do too much of this job of attending medical meetings and delivering addresses, which, combined with the heat and a little attack of botulism, laid me up for about two months, and my doctor said I was to go to no more meetings until the first of the year. However I had promised your Board of Trustees early last spring that I would be here, so, live or die, boys, I am here; but I have not had an opportunity to prepare an address.

There is one subject that is dear to my heart, and I should like to talk this morning on medical education —what it is and what is its future; but I will not indulge—rather make a few rambling remarks suggested by the inspiring occasion.

As I watched the men who have been your presiding officers in days past, I realized that most of us have had the pleasure and the great privilege of living through the most wonderful generation in the history of man, even in the world at large, because it has been a generation to which science has made its golden contributions. As we look back over the achievements of this generation, it is amazing to think of what transportation has become. Only a generation ago, if one wanted to pass from shore to shore, he had to resort to a sailing ship for probably weeks and months, uncomfortable and even dangerous; while today the ocean liner, with gasoline and oil in its tanks, plows the seas in less than a week. In Baltimore they are celebrating the founding of the B. and O. Railroad and the wonderful expansion in railroad activities that has taken place, and I realize that a few years ago if I had wanted to go from Kansas City to Pittsburgh it would have taken weeks of travel; but today in twenty-four hours I am in Pittsburgh.

We must realize what that has meant to intercourse—bringing the whole world together; it has made a community of nations, until today international thought is almost universal. Twenty-five or thirty years ago a citizen in Germany was vastly different from a citizen of America; the same could be said of the Chinese and Japanese. Today, as we travel from country to country, we are hardly able to recognize that we have changed surroundings. We wear the same clothes, largely speak the same language, and think the same thoughts. A great advance has been made in the possibility of intercommunication of the thoughts of men. Then we review the development of medicine through epochs, through long periods of slow progress when physicians wandered in more or less confusion, centuries upon centuries before the beginning of anything that meant definite knowledge of science. The microscope was one of the first achievements of science in the realm of medicine. It gave us a knowledge of the cellular body, and led to Pasteur's recognition of the fact that there were other cells, and that much disease was due to the combat of body cells with invading organisms.

Then for the first time, almost within the memory of those here, came true scientific medicine, when we realized the true nature of disease. Think what that knowledge has contributed, not only to our science, but to the benefit of the world at large. It has enabled us to prevent many horrible diseases which formerly existed. Today cholera is practically a memory, and yet a comparatively short time ago it was a deadly menace that took a heavy toll of lives and paralyzed the commerce of the world. Last year the Rockefeller Institute reported that yellow fever has been driven from this hemisphere, only a few cases appearing in Africa. A generation ago the average doctor in a small community could make a fairly respectable living by treating certain periodic diseases of the infectious type. Typhoid fever alone kept him fairly busy. And yet today we think of typhoid as a disgrace to a modern, civilized community. Methods of sanitation have enabled us to sterilize the water and the milk supply, and to be almost free of typhoid. It was my privilege to be a surgeon in the Spanish-American War. We saw so many typhoid cases that we could almost diagnose it from the odor. At that time scientific medicine knew about as much regarding typhoid as the civilized world at large, and it was not recognized that the disease could be avoided until the Japanese taught us that lesson. At Camp Meade the chief surgeon said to me that all his attempts at sanitation in the camp in an effort to control disease had been absolutely ignored. But, thank God! there finally is recognition on the part of the world at large of the truth of preventive medicine.

We realize these advances more and more when we contemplate the field of surgery. I can remember when I saw the first case of gall-bladder removal, and when an old pouch brought to a medical society meeting was a matter of interest. In those days we did not have any trouble keeping up the interest in the medical society, because the man who did not attend was afraid he would miss something important.

They were glorious days that most of us have lived through, with the marvelous advances that have come in our field of science; but let us also realize that the medical profession of this country has given to the world at large more in material welfare than the world can ever possibly give back. I am sometimes impressed with the fact that in our altruistic enthusiasm we talk too much about what we owe the people. Do we ever stop to realize what the people owe to the medical profession for its achievements—achievements which have not brought aggrandizement to the profession, but on the contrary, have ofttimes lowered its source of income?—and yet we are proud of it! So sometimes I wonder if we should not stop talking about what we owe the people and say something about what the people owe us. Do we realize, for instance, that within a generation, when some of us started in medicine, it was possible for a man to finish his course and go out from a well-recognized school in two years of six months each? Yet today it requires six years of preparation after a boy leaves the grade school—four years of high school, two years of college—before he is permitted to enter medical school, and then after his medical course an added year in a hospital. Do we realize what that means, this nine or ten years of preparation —the expense to the young man, both in money and time? Can we realize the obligation that the world at large owes the members of the medical profession?

Finally, I wish to say that I think this period of intensive scientific development has led to the specialist, to the limitation of knowledge, because it has been practically impossible for one man to know everything within the realm of medicine. We have specialized, we have learned how to think scientifically, until we almost forget that we are ministering to human beings. The average doctor who sees a patient with a cough tries to determine how many pneumococci are present, and what their reaction is. He treats the pathology alone,

and oftentimes fails to study the human being who has the disease. After all, there is a human being with physiologic resistance to deal with, and I believe the great future of medicine today lies in study of the physiology of the individual who has the disease. As sometimes happens in surgery, an operation may be performed by a master surgeon according to a master technic, but the patient dies. On the other hand, after an operation by a less experienced surgeon with crude technic, the patient may recover. So in internal medicine, you may have a patient about whom you are anxious, whom you have given the most careful treatment, and yet he dies. Another physician may have a similar case, rather carelessly treated, and his patient recovers. Why is it? It is not a matter of pathology or treatment, but is due to the different physiology of the individual patients. Our problem of treatment in the future will be to understand physiology more fully, and know what will build up the individual patient.

Incidentally, we must be leaders along altruistic lines. We have mastered many of these infectious diseases and many of the degenerative diseases. We have reduced the mortality of the present day, and have increased the longevity of man's life by fifteen years by the ability to prevent certain infections that take away life. We realized that mortality is the late result of a degenerative lesion, and then we realized that if the doctor had anticipated the physiologic changes taking place in that individual he might have added to his longevity. There we come into the field of preventive medicine, where we study not how to cure disease but how to prevent it.

Let me say here that in preventive medicine the most important man is the family doctor who knows the individual he is handling. If there is one thing I condemn more strongly than another, it is the attempt to introduce the methods of corporate organizations into the field of periodic examinations. These corporations know nothing about the individual man; the examination is purely mechanical. I believe every doctor of medicine today who has put in six years of preparation for his education is fully qualified to examine these people, and can tell more about their condition than can any impersonal corporation. While we plead for periodic health examinations, we argue for them at the hands of the doctor.

I am glad to see manifest in this great State Medical Society a spirit of homage toward honored leaders. I am frank to say that the medical education available in the State of Pennsylvania is the best in the world, that there are no schools in America or elsewhere which come so near to turning out the type of a real doctor as do your institutions. We, as medical men, probably depend more for success upon the trust and faith of the people with whom we deal than do those in any other vocation. The merchant can show his silk and the customer looks at it to see whether it is the color or the price she wants. When you buy a pipe you see whether it is the kind you want. But when it comes to choosing a doctor, you cannot tell by looking at him what his ability is. We must inspire faith, for as we offer our services we appeal to the confidence and faith of the people, and in return we must merit that faith.

Therefore, I am glad to hear as the keynote of this morning's meeting a re-presentation of the ideals and ethics of medicine, a visualization of the doctor who is a man in the sight of men, and a man in the sight of God.

The President: We are grateful to Dr. Jackson for his words. They mean much, because out of the heart the mouth speaketh.

The next address will be "The Imperative Needs of Pennsylvania in Providing for the Care of Her Mental Dependents and Moral Offenders," by Dr. Charles H. Frazier, of Philadelphia. (This paper will be published in a later number of the Journal.)

The Tuesday morning General Session adjourned.

Harry W. Albertson,
Arthur C. Morgan,
Walter F. Donaldson,
Christian B. Longenecker.

Wednesday, October 5, 1927

The Wednesday morning General Session was called to order at 10 o'clock, the president, Dr. Arthur C. Morgan, presiding.

The following case reports were presented in the period from 10 to 10.55: "Vesical Calculus in the Female; Report of Two Cases; Rarity of the Condition," Frank C. Hammond, Philadelphia; "Spontaneous Rupture of the Aorta, One and One-Half Inches above the Diaphragm" (Lantern Demonstration), Charles G. Strickland, Erie; "Echinococcus Cyst of the Liver" (Lantern Demonstration), Bender Z. Cashman, Pittsburgh; "Chronic Enteritis in Arteriosclerotic Patients" (Lantern Demonstration), Edward P. Griffiths, Pittsburgh; "Neurasthenia—A Résumé," Thomas M. T. McKennan, Pittsburgh. This paper was discussed by Charles H. Henninger, Pittsburgh. There was no discussion of the other case reports.

Alexander Armstrong, White Haven, read a paper entitled "Heliotherapy in the Treatment of Tuberculosis; an Evaluation." There was no discussion of this paper. Meyer Solis-Cohen, Philadelphia, read a paper entitled "Mixed Infection in Pulmonary Tuberculosis" (Lantern Demonstration). There was no discussion of this paper. Thomas T. Sheppard, Pittsburgh, read a paper entitled "The Prophylaxis of Exophthalmic Goiter" (Lantern Demonstration). This paper was discussed by Charles H. Marcy and Frank A. Evans, Pittsburgh.

The President: The House of Delegates, now adjourned, has chosen Allentown as the next place of meeting, the time, fixed by the By-Laws, being the first week of October, 1928. In addition, the election of a president-elect took place. I am pleased to report to you that harmony and good order prevailed and that unanimous approval was given to the one name submitted. Allegheny County is honored at this time by having one of her sons chosen as president-elect, one who has the signal distinction of having been present at every one of the past twenty-seven State Society sessions. It is needless to tell you that a gentleman who bears that record is familiar with the workings of the Medical Society of the State of Pennsylvania, so that as president-elect for the ensuing year and as president for the succeeding year this Society will be in safe hands.

It is my pleasure, my duty, my privilege, and honor to present to you at this time Dr. Thomas G. Simonton, president-elect.

Dr. Thomas G. Simonton: I want to say that I deeply appreciate this honor. It comes to a man once in a lifetime and I hope that I will prove worthy of your confidence and be able in the next two years to serve this Society as you wish. When I was asked by Dr. Jump six years ago to accept the chairmanship of the Committee on Scientific work, I promised him

my best endeavors, and have labored very hard and against many obstacles to improve the scientific meetings of this Society. For twenty-seven years I have attended every meeting of our State Society. During this time I have seen the attendance grow from three or four hundred to between a thousand and fifteen hundred. The registration this morning at 9.30 was over a thousand, and I believe it will run to fourteen hundred at this meeting. For five years I have attended and have been a member of the House of Delegates, and I have been very much pleased to see it progress from a chaotic state to a well-organized body, to such an extent that the authorities of the American Medical Association have frequently complimented our House on its executive ability.

I have always tried to promote the best interests of this Society and I pledge you, as president-elect and president, my best endeavors for the Society.

Dr. Alfred W. Adson, Rochester, Minnesota, read a paper entitled "The Diagnosis and Surgical Treatment of Cervical Rib" (Lantern Demonstration). There was no discussion of this paper.

The Wednesday morning General Session adjourned.

George A. Knowles, *First Vice-President,*

Christian B. Longenecker, *Assistant Secretary.*

Thursday, October 6, 1927

The Thursday afternoon General Session was called to order at 2 o'clock by the president, Dr. Arthur C. Morgan.

The following papers were read in the "Symposium on Application of Radium and Radon": "Factors in the Selection of Proper Cases," by William H. Cameron, New York, N. Y.; "Gynecological Uses," by Floyd E. Keene, Philadelphia (Lantern Demonstration); "Dermatological Aspect," by William H. Guy, Pittsburgh (Lantern Demonstration). There was no discussion of these papers.

The papers on "The Eclamptic and Preëclamptic Woman," by Harold A. Miller and Diego B. Martinez, Pittsburgh, followed. There was no discussion of these papers.

L. H. Newburgh, Ann Arbor, Michigan, read a paper entitled "The Nature of Obesity" (Lantern Demonstration). This paper was discussed by William E. Robertson, Philadelphia, and by Dr. Newburgh in closing.

It was moved by Thomas G. Simonton that a vote of thanks be extended to Dr. Newburgh for his presentation. Motion seconded and carried by rising vote.

The President: This brings to a close the seventy-seventh annual meeting of the Medical Society of the State of Pennsylvania. We are greatly appreciative of the splendid arrangements which have been made by the Allegheny County Medical Society—by Dr. C. H. Henninger, the president, and Dr. Robert L. Anderson, the chairman of the local Committee on Arrangements, all of which have contributed to our comfort and welfare and to our pleasure and profit. The report from the sections is that this has been a wonderfully interesting and lively scientific and social gathering. It means much for the progress of the medical profession. We are glad that the profession is learning not to take itself so seriously, and I am glad they are taking time off for diversion from labor.

The Society adjourned.

Arthur C. Morgan, *President,*

Christian B. Longenecker, *Assistant Secretary.*

MINUTES OF THE SECTION ON MEDICINE

Tuesday, October 4, 1927

The Section on Medicine convened in the Lounge of the University Club, Pittsburgh, at 2 p.m., and was called to order by the chairman, W. W. G. Maclachlan, Pittsburgh.

In the symposium on "A Study of the Material in a Neuropsychiatric Clinic," the following papers were read: "The Functional Cases From the Standpoint of Etiology, Clinical Symptoms, and Treatment," by Theodore H. Weisenburg, Philadelphia; "Organic Nervous Disease; Type of Cases and Their Treatment" by Clarence A. Patton, Philadelphia; "Organic and Functional Nervous Disease from the Viewpoint of the General Practitioner," by Henry Pleasants, Jr., West Chester. These papers were discussed by Theodore Diller Pittsburgh; Adam J. Simpson, Chester; Judson Daland, Philadelphia; Walter S. Brenholtz, Williamsport, and in closing by Dr. Weisenburg.

In the "Symposium on Pernicious Anemia," the following papers were read: "Infection in Relation to Pernicious Anemia," by Frank A. Evans, Pittsburgh; "The Present-Day Treatment of Pernicious Anemia," by William J. Fetter, Pittsburgh (owing to the illness of Dr. Fetter this paper was presented by Dr. W. W. G. Maclachlan). These papers were discussed by Carl E. Ervin, Danville; J. Newton Hunsberger, Norristown; Clement R. Jones, Pittsburgh; William H. Mercur, Pittsburgh; Judson Daland, Philadelphia; Joseph H. Barach, Pittsburgh; Theodore H. Weisenburg, Philadelphia; W. W. G. Maclachlan, Pittsburgh; and in closing by Dr. Evans.

The chairman called attention to the fact that the last hour on the afternoon's program had been reserved for a visit to the Scientific Exhibit at the Hotel Schenley where there was a demonstration of pathologic specimens from the University of Pittsburgh, and urged the members of the Section to take advantage of this opportunity to see many interesting things.

The Section adjourned at 4.25 p.m.

Wednesday, October 5, 1927

The Section on Medicine convened in the Lounge of the University Club, Pittsburgh, at 2.05 p.m., and was called to order by the chairman, W. W. G. Maclachlan, Pittsburgh.

The Executive Committee—Charles F. Falkowsky of Scranton, and Roy R. Snowden of Pittsburgh—recommended the following officers for the ensuing year: chairman, Jesse L. Lenker, Harrisburg; secretary, Elliott B. Edie, Uniontown.

Upon motion regularly seconded and carried, Dr. Lenker and Dr. Edie were elected.

In the "Symposium on Rheumatic Fever," the following papers were presented: "Etiology and Specific Treatment of Rheumatic Fever," by James C. Small, Philadelphia; "The Importance of Prolonged Convalescent Care in Rheumatic Heart Disease," by William D. Stroud and Francis D. W. Lukens (nonmember), Philadelphia; "Electrocardiographic Studies in Rheumatic Fever," by Thomas M. McMillan, Jr., Philadelphia. These papers were discussed by Robert G. Torrey, Philadelphia; Judson Daland, Philadelphia; and in closing by Drs. Stroud, McMillan, and Small.

The chairman called attention to a meeting of the Pennsylvania Branch of the Association for the Prevention of Heart Disease, in Soldiers' Memorial Hall at 5 p.m., and urged a full attendance of all those interested.

In the "Symposium on Physical Therapy," the following papers were presented: "Physical Therapeutics; Its Use in the General Practice of Medicine," by Clement R. Jones, Pittsburgh; "The Application of Physical Therapy to Acute Pulmonary Disease," by I. Hope Alexander, Pittsburgh; "The Application of Physical Therapy to the Treatment of Nervous and Mental Disorders," by Harold L. Mitchell, Pittsburgh. These papers were discussed by Henry C. Westervelt, Pittsburgh; William Waddle Richardson, Mercer; J. Torrance Rugh, Philadelphia; Alexander McL. Milligan, Pittsburgh.

Walter C. Alvarez, Mayo Clinic, Rochester, Minnesota, then addressed the Section on "Basic Principles in the Treatment of Ulcer."

The Section tendered Dr. Alvarez a rising vote of thanks and appreciation for his address, and adjourned at 5 p.m.

Thursday, October 6, 1927

The Section on Medicine convened in the Lounge of the University Club, Pittsburgh, at 9.05 a.m., and was called to order by the chairman, W. W. G. Maclachlan, Pittsburgh.

The following case reports were presented: "Acute Pancreatitis Hemorrhagica (Two Cases)," by Albert R. Garner, Norristown; "A Case of 'Mental Twist,'" by Theodore Diller, Pittsburgh; "Specific Treatment of a Case of Meningococcic Meningitis by Lumbar, Cisternal, and Ventricular Routes," by Roland N. Klemmer, Lancaster; "Pancreatic Cyst," by Henry Klinzing, Pittsburgh; "Chronic Endocarditis," by John W. Boyce, Pittsburgh; "Cardiospasm," by John D. Garvin, Pittsburgh; and "Pulmonary Abscess," by J. Slater Crawford, Pittsburgh. These reports were discussed by Alfred C. Wood, Philadelphia, and Henry Klinzing, Pittsburgh.

In the "Symposium on Diseases of the Lung," the following papers were presented: "Some Clinical Points Relating to the Diagnosis of Empyema," by George W. Norris and David R. Bowen, Philadelphia; "Postoperative Pulmonary Atelectasis," by Walter Estell Lee and Gabriel F. Tucker, Philadelphia; "Changes in the Serum Salt Concentration in the Blood During Lobar Pneumonia, and their Relation to Therapy," by William Sunderman and J. Harold Austin, Philadelphia. These papers were discussed by J. Slater Crawford, Pittsburgh; William Egbert Robertson, Philadelphia; John W. Boyce, Pittsburgh; George E. Holtzapple, York, and in closing by Drs. Tucker and Norris.

In the "Symposium on Disease of the Coronary Artery," the following papers were presented: "Is Angina Pectoris Synonymous with Coronary-Artery Disease?" by William Egbert Robertson, Philadelphia; "The Physiologic Type of Electrocardiogram as Compared with the Pathologic" (with moving picture demonstration) by Joseph B. Wolffe, Philadelphia; "Studies on the Coronaries; Results of Histologic and Injection Experiments," by Jefferson H. Clark, Philadelphia. These papers were discussed by Allen G. Beckley and George W. Norris, of Philadelphia, and in closing by Dr. Robertson.

Louis Hamman, Baltimore, Maryland, then addressed the Section on "Prognosis of Hypertensive Cardiovascular Disease."

The chairman requested a rising vote of thanks to Dr. Hamman for his address, which was unanimously given.

The Section adjourned at 12.40 p.m. *sine die.*

W. W. G. Maclachlan, *Chairman,*
Jesse L. Lenker, *Secretary.*

Members Registered in the Section on Medicine

Adams County Society—J. L. Sheetz.

Allegheny County Society—C. J. Aaron, S. H. Adams, D. N. Ashlstrom, J. H. Alexander, G. C. Anderson, L. F. Ankrim, C. A. Arnold, R. J. Askin, M. H. Baker, J. Ballagi, J. T. Baltrusaitis, H. A. Barnhardt, H. Bartle, H. Bernstein, L. Bernstein, L. C. Bixler, D. G. Black, J. J. Borgman, L. C. Botkin, A. J. Boucek, F. C. Boucek, C. J. Bowen, R. N. Bowman, J. W. Boyce, F. R. Braden, W. A. Bradshaw, F. W. Bremer, L. E. Brougher, P. A. Brown, P. C. Bruce, A. J. Bruecken, G. S. Bubb, A. E. Bulger, W. T. Burleigh, R. G. Burns, P. W. Bushong, C. S. Caldwell, G. A. Calhoun, V. B. Callomon, M. C. Cameron, R. J. Campbell, U. A. Carpenter, W. A. Caven, E. R. Childs, H. E. Clark, W. A. Clark, J. J. Clarke, J. Cohen, M. Cohen, A. H. Colwell, F. L. Conwell, A. L. Cort, V. W. Cowan, F. B. Craig, H. P. Crawford, J. S. Crawford, W. J. Crookston, A. W. Crozier, C. L. Curll, A. C. Davis, A. O. Davis, F. Davis, L. E. Davis, C. B. Denny, C. J. Devlin, I. S. Diller, T. Diller, J. S. Donaldson, W. F. Donaldson, F. W. Donley, J. J. Donoghue, J. D. Donovan, B. E. Dornbush, J. M. Douthett, D. M. Dunbar, A. P. D'zmura, J. C. Edgar, F. T. Edwards, A. H. Eggers, O. N. Eisaman, C. W. W. Elkin, J. W. E. Ellenberger, A. H. Elliott, H. T. Elliott, G. D. Engle, H. Epstein, J. W. Esler, E. E. Evans, F. A. Evans, S. D. Evans, H. L. Farquhar, L. C. Fausold, I. D. Ferguson, J. W. C. Ferguson, W. M. Findley, A. Finegold, J. W. Fisher, J. C. Fleming, J. M. Flude, W. A. Forster, J. N. Frederick, E. B. Friedburg, E. M. Frost, B. Fulton, L. C. Fulton, J. C. Gamble, H. B. Gardner, R. E. Gardner, J. D. Garvin, W. N. Goehring, J. B. Gold, L. R. Goldsmith, M. Goldsmith, H. J. Goodrich, R. D. Goodwin, W. B. Gordon, M. A. Gould, N. R. Graham, V. J. Grauten, E. P. Gray, T. W. Grayson, J. C. Greenfield, J. Grekin, G. W. Grier, E. P. Griffiths, H. W. Grimm, H. E. Halferty, H. M. Hall, Jr., J. P. Hall, W. T. Hall, L. Halpert, J. M. W. Hamilton, J. S. Hammers, G. R. Harris, R. H. Harrison, C. C. Hartman, W. B. Harvey, S. R. Haythorn, T. L. Hazlett, J. D. Heard, R. M. Heath, J. A. Heberling, L. H. Hector, J. P. Hegarty, T. R. Helmbold, C. H. Henninger, E. S. Henry, R. S. Hensell, H. J. Herzstein, R. L. Hill, R. T. Hood, H. P. Hook, H. J. Hopkins, J. J. Horwitz, C. S. Hunter, J. F. Hunter, C. H. Ingram, M. Jena, J. I. Johnston, R. T. Johnstone, C. R. Jones, F. W. Joyce, H. J. Kalet, A. F. Kamens, J. B. Keaggy, J. A. Keefer, J. S. Kelso, D. D. Kennedy, F. Kenworthy, C. H. Ketterer, R. H. King, D. I. Kirk, T. T. Kirk, H. Klinzing, Q. S. Kocher, A. Koenig, A. Koenig, Jr., A. J. Korhnak, W. E. Kuchenmeister, L. E. Lacock, G. R. Lacy, S. E. Lambert, G. T. Lamon, L. Lasday, W. E. Lawson, E. Lebovitz, W. W. Lermann, A. L. Lewin, A. K. Lewis, C. C. Leydic, C. L. Leydic, J. A. Lindsay, L. Litchfield, G. S. Llewelyn, J. G. Lloyd, P. M. Lloyd, A. K. Lyon, C. B. McAboy, R. J. McAdams, J. L. McBride, L. E. McCartney, R. H. McClellan, J. D. McClure, H. S. McClymonds, S. F. McComb, W. E. McConnell, W. P. McCorkle, E. V. McCormick, T. L. McCullough, J. R. McCurdy, P. J. McFadden, W. W. McFarland, W. J. McGeary, W. J. McGregor, T. M. T. McKennan, A. McKibben, C. L. McKinnon, J. M. McNall, S. McNaugher, C. P. MacDonald, T. McC. Mabon, W. W. G. Maclachlan, C. B. Maits, A. S. Mallek, H. N. Malone, C. H. Marcy, P. E. Marks, C. S. Marshall, J. L. Marshall, W. N. Marshall, W. W. Martin, F. W. Mathewson, E. E. Mattox, H. N. Mawhinney, W. C. Maxwell, E. E. Mayer, W. H.

Mayer, W. H. Mercur, G. B. Meyers, L. O. Miller, A. M. Milligan, J. W. Mitchell, L. T. Mitchell, W. T. Mitchell, Jr., A. F. B. Morris, H. W. Morrow, C. W. Morton, W. R. Morton, J. A. Munster, E. E. Neely, C. J. Newcomb, J. E. Newhouse, J. C. Nicholls, H. G. Noah, J. A. O'Donnell, W. B. Orbin, C. A. Orr, C. W. Page, C. L. Palmer, B. H. Patterson, H. H. Permar, E. N. Piper, J. Porter, R. H. Poster, J. Priestes, J. Purman, W. T. Pyle, G. W. Rall, H. M. Ray, T. K. Reeves, A. M. Richardson, E. C. Ritchey, H. H. Rittenhouse, R. V. Robinson, U. F. Rohm, A. E. Roose, W. F. Ross, F. W. Rudolph, A. G. Sandblad, E. P. Schatzman, C. J. Scheffer, C. B. Schildecker, J. J. Schill, H. G. Schleiter, F. L. Schumacher, J. P. Seedenberg, D. H. Shaffer, W. G. Shallcross, W. Shapera, H. A. Shaw, T. T. Sheppard, A. W. Sherrill, A. B. Sigmann, T. G. Simonton, G. W. Smeltz, J. C. Smith, J. L. Smith, L. Monier Smith, L. N. Smith, A. R. Snedden, R. R. Snowden, H. B. Speer, M. Spiro, S. S. Steffler, C. J. Steim, J. B. D. Stewart, H. L. Stollar, C. M. Straessley, W. A. Strayer, W. W. Sturgis, C. J. Stybr, F. P. Tarnapowicz, E. E. Taylor, J. M. Thorne, W. L. Thumhurst, H. J. Treshler, A. L. Trevaskis, F. B. Utley, E. Vandegrift, W. C. Wallace, A. W. Wallis, E. S. Warner, H. E. Waxman, J. A. Weamer, G. C. Weil, M. H. Weinberg, H. C. Westervelt, C. C. Wholey, E. W. Willetts, J. M. Wilson, J. V. Wilson, T. L. Wilson, P. L. Winston, J. I. Wiseman, K. S. Wiseman, R. F. Wivell, W. A. Woodburn, J. W. Worrell, G. J. Wright, H. W. Wuerthele, J. G. Wurtz, G. R. Wycoff, W. A. Wycoff, W. H. Wymard, K. Yardumian, V. J. Yorty, O. Yost, P. I. Zeedick, J. Zeok, C. E. Ziegler, H. F. Zinsser, J. A. Zuck.

Armstrong County Society—W. J. Bierer, J. T. Deemar, J. A. Kelly, E. J. H. Lawson, W. H. McCafferty, T. N. McKee, C. M. McLaughlin, F. C. Monks, W. H. Nix, C. C. Parks, C. A. Rogers, J. B. F. Wyant.

Beaver County Society—G. R. Boyd, M. I. Cornelius, H. B. Jones, L. H. Landay, M. L. McCandless, F. H. McCaskey, B. E. Marshall, J. L. Miller, B. C. Painter, W. H. Shields, B. B. Snodgrass.

Bedford County Society—W. F. Enfield, A. M. Miller, W. C. Miller, W. E. Nycum, H. I. Shoenthal.

Berks County Society—J. E. Livingood.

Blair County Society—G. D. Bliss, J. S. Bonebreak, D. F. Glasgow, A. S. Kech.

Bradford County Society—S. D. Conklin, G. E. Richardson, P. H. Schwartz.

Butler County Society—W. J. Armstrong, J. C. Atwell, S. R. Fulton, M. E. Headland, A. M. Padilla, H. P. St. Clair, M. B. St. Clair.

Cambria County Society—H. B. Anderson, G. C. Berkheimer, S. D. Boucher, S. P. Boyer, W. S. Daugherty, H. G. Diffenderfer, E. T. Ealy, F. U. Ferguson, E. Jones, A. W. Leech, T. E. Mendenhall, J. J. Meyer, E. Pardoe, H. W. Salus, C. M. Schultz, T. H. A. Stites, W. G. Turnbull.

Center County Society—P. H. Dale.

Chester County Society—U. G. Gifford, H. Pleasants, W. T. Sharpless, J. Taylor.

Clarion County Society—C. W. Hoffman, N. C. Mills, C. C. Ross, J. F. Summerville.

Clearfield County Society—I. S. Flegal, J. P. Frantz, N. M. McNerney, H. L. Woodside, G. B. Yeaney.

Clinton County Society—C. S. Bauman, J. M. Dumm.

Columbia County Society—C. B. Yost.

Crawford County Society—O. H. Jackson, C. C. Laffer, E. J. Werle.

Cumberland County Society—N. W. Hershner, H. C. Lawton.

Dauphin County Society—D. S. Funk, W. M. Kunkel, J. L. Lenker, J. B. McAlister, H. C. Myers, C. R. Phillips, M. R. Polk, R. F. L. Ridgway, W. C. Sandy.

Delaware County Society—J. H. Fronfield, H. E. Orndoff, A. R. Rozploch, A. J. Simpson.

Elk County Society—S. G. Logan, S. T. McCabe, J. E. Madara.

Erie County Society—J. Ackerman, J. C. M. Drake, G. E. Dutter, C. C. Kemble, H. M. Moorhead, G. A. Reed, J. A. Stackhouse, J. D. Stark, H. R. Steadman, J. C. Stilley, G. M. Studebaker.

Fayette County Society—H. G. Bell, A. L. Eddy, E. B. Edie, G. O. Evans, J. W. Gordon, B. Halporn, H. A. Heise, G. H. Hess, F. S. Hoover, L. D. Johnson, E. C. Sherrick, C. H. Smith.

Franklin County Society—J. W. Croft, A. W. Thrush.

Greene County Society—R. E. Brock, W. B. Clendenning, E. W. Laidley, T. N. Millikin, F. S. Ullom, S. T. Williams.

Huntingdon County Society—J. M. Beck, W. J. Campbell.

Indiana County Society—J. W. Campbell, J. W. Carson, M. M. Davis, J. C. Glasser, J. C. Gourley, A. T. Rutledge, A. H. Stewart.

Jefferson County Society—S. M. Beyers, R. C. Gourley, H. B. King, A. C. McKinley, J. C. Sayers, F. C. Smathers, H. P. Thompson.

Lackawanna County Society—J. J. Brennan, G. A. Clark, C. Falkowsky, J. D. Lewis, J. J. O'Connor, M. T. O'Malley.

Lancaster County Society—D. E. Cary, F. G. Hartman, J. T. Herr, R. N. Klemmer, V. Treichler.

Lawrence County Society—W. C. Burchfield, E. Kaplan, M. Rogers, R. A. Wallace, J. O. Woods.

Lehigh County Society—M. A. Baush, V. J. Gangewere, H. E. Klingaman.

Luzerne County Society—A. Armstrong.

Lycoming County Society—W. S. Brenholtz, J. A. Campbell, G. R. Drick, I. T. Gilmore, A. C. Haas, R. S. Kull, F. C. Lechner.

McKean County Society—F. DeCaria, P. Straight-Robbins, A. A. Van Slyke.

Mercer County Society—F. O. Batteiger, P. E. Biggins, J. C. Cooley, C. J. Gilliland, C. L. Howe, J. S. Knapp, M. B. Magoffin, R. D. Nicholls, W. W. Richardson.

Mifflin County Society—J. A. C. Clarkson.

Montgomery County Society—E. S. Buyers, W. C. Davis, A. R. Garner, J. N. Hunsberger, W. J. Wright.

Montour County Society—C. E. Ervin, J. A. Jackson, R. A. Keilty, C. S. Tomlinson.

Northampton County Society—F. J. Dever, C. Gaines, V. S. Messinger, M. W. Phillips, C. F. Stofflet.

Philadelphia County Society—F. S. Baldi, A. G. Beckley, L. N. Boston, W. P. Brown, J. Daland, T. Fitz-Hugh, Jr., S. P. Gerhard, J. N. Henry, H. L. Jameson, H. D. Jump, G. A. Knowles, J. J. Lynch, T. M. McMillan, A. C. Morgan, C. W. Norris, C. A. Patten, O. H. Petty, W. E. Robertson, B. F. Royer, J. C. Small, G. L. Stephan, W. D. Stroud, F. W. Sunderman, J. A. Sweeney, R. G. Torrey, T. N. Weisenburg, J. B. Wolffe, G. C. Yeager.

Schuylkill County Society—A. B. Fleming, J. W. Schultz.

Snyder County Society—J. O. Wagner.

Somerset County Society—C. C. Glass, L. A. Heikes, C. I. Shaffer, F. B. Shaffer, G. F. Speicher.

Tioga County Society—C. W. Sheldon.

Venango County Society—C. S. Bridenbaugh, P. L. Bruner, J. F. Davis, C. Y. Detar, F. E. Magee.

Warren County Society—R. B. Mervine, H. W. Mitchell.

Washington County Society—D. M. Bell, D. Beveridge, J. M. Boice, A. N. Booth, W. J. Burns, R. E. Conner, C. A. Crumrine, J. R. Day, C. T. Dodd, A. V. Donaldson, E. M. Ellis, M. H. Heatter, A. O. Hindman, J. F. Hufford, R. W. Koehler, W. H. Lewis, J. J. McCarthy, W. D. Martin, H. J. Repman, J. M. Steiner, W. D. Teagarden, F. S. VanKirk, J. E. Wilson, R. W. Wolfe.

Wayne County Society—F. W. Powell.

Westmoreland County Society—C. D. Ambrose, A. B. Blackburn, L. L. Blackburn, W. M. Bortz, A. M. Cochran, D. M. Easter, C. A. Goble, J. B. Laughrey, R. P. McClellan, P. G. McKelvey, I. J. Ober, J. M. Patton, W. F. Peairs, H. N. Prothero, U. H. Reidt, T. St. Clair, C. H. Silvis, C. E. Snyder, R. H. Speer, H. J. Stauffer, H. J. Stockberger, J. P. Strickler, C. E. Taylor, D. A. Walker, J. H. Watson.

Wyoming County Society—W. W. Lazarus.

York County Society—G. E. Holtzapple, C. H. May, P. A. Noll, A. C. Sorensen, P. Spaeder.

MINUTES OF THE SECTION ON SURGERY

Tuesday, October 4, 1927

The chairman of the Section on Surgery, Evan W. Meredith, Pittsburgh, called the meeting to order at 2.09 p.m., in the Ballroom of the University Club, Pittsburgh.

The following constituted the program:

The first period was devoted to a "Symposium on Orthopedic Surgery." DeForest P. Willard, Philadelphia, read a paper entitled "Diagnosis and Treatment of Orthopedic Deformities in Early Childhood," with lantern demonstration. James O. Wallace, Pittsburgh, read a paper entitled "The Diagnosis and Treatment of Surgical Tuberculosis," with lantern demonstration. William J. Merrill, Philadephia, read a paper entitled "Prevention and Correction of Deformities in the Treatment of Infantile Paralysis." John L. Atlee, Lancaster; DeForest P. Willard, Philadelphia; and William J. Merrill, Philadelphia, discussed these papers. Dr. Wallace closed the discussion.

The second period was devoted to a "Symposium on Injuries to the Knee and Ankle Joint." John J. Moorhead, New York, was then introduced by the chairman and read a paper entitled "Injuries to the Knee Joint," with lantern demonstration. A. Bruce Gill, Philadelphia, read a paper entitled "Injuries to the Foot and the Ankle," with lantern demonstration. These papers were not discussed.

The third period was devoted to a paper on "Acute Gangrenous Retrocecal Appendicitis," by Jabez N. Jackson, Kansas City, Mo., president of the American Medical Association. This paper was not discussed.

The Section adjourned at 4.50 p.m.

Wednesday, October 5, 1927

The chairman, Evan W. Meredith, Pittsburgh, called the meeting to order at 2 p.m., in the Ballroom of the University Club.

The first period was devoted to a "Symposium on Carcinoma of the Rectum." The following papers were read: "Early Symptoms of Carcinoma of the Rectum," by Curtis C. Mechling, Pittsburgh; "Diagnosis of Carcinoma of the Rectum," by Jesse Hall Allen, Philadelphia; and "The Choice of Operation for Carcinoma of the Rectum," with lantern demonstration, by Damon B. Pfeiffer, Philadelphia. These papers were discussed by Harold L. Foss, Danville, and Collier F. Martin, Philadelphia.

The second period was devoted to a "Symposium on Surgery of the Spleen." The following papers were read: "The Rôle of the Spleen in Health and Disease; a Summary of Modern Views," by Thomas FitzHugh, Jr., Philadelphia; "Splenectomy in the Anemias of Childhood," by J. Claxton Gittings and Joseph Stokes, Jr., Philadelphia (the paper was presented by Dr. Stokes); "Indications for and Technical Features of the Operation of Splenectomy," with lantern demonstration, by George P. Muller, Philadelphia. These papers were not discussed.

After a recess of five minutes, the third period was devoted to a paper entitled "Gastric Ulcer," with lantern demonstration, by Donald Balfour, Rochester, Minn. This was discussed by Lawrence Litchfield, Pittsburgh; Holland H. Donaldson, Pittsburgh; and Dr. Balfour in closing.

The Section adjourned at 4.45 p.m.

Thursday, October 6, 1927

The chairman, Evan W. Meredith, Pittsburgh, called the meeting to order at 9.03 a.m., in the Ballroom, University Club.

The Executive Committee—James H. Baldwin, Philadelphia; Harold L. Foss, Danville; and George M. Dorrance, Philadelphia—reported that the following officers were nominated to serve for the coming year: chairman, Albert F. Hardt, Williamsport; secretary, Damon B. Pfeiffer, Philadelphia. Upon motion, duly seconded and carried, Drs. Hardt and Pfeiffer were unanimously elected.

The first period of the third session was devoted to the following case reports: "An Unusual Type of Congenital Malformation of the Female Genital Tract," by Halton C. Cassidy, Lewistown; "Right Nephrolithiasis with Kidney Destruction as an End Result of Pyelitis of Childhood," with lantern demonstration, by John P. Harley, Williamsport; "Chronic Intussusception of Sigmoid in Adults," by W. Minster Kunkel, Harrisburg; "Properitoneal Unilocular Hernia of the Sigmoid in an Unusual Location," by Herbert B. Gibby, Wilkes-Barre; "Rhabdomyosarcoma of the Buttocks," by John H. Wagner, Pittsburgh; "Invaginated Meckel's Diverticulum Producing Intestinal Obstruction," by Harry R. Decker, Pittsburgh; "Postoperative Massive Collapse of Lung," with lantern demonstration, by Robert M. Entwisle, Pittsburgh. The chairman announced that the case report entitled "Perforating Ulcer of Invaginated End of Proximal Loop of Intestine Four Years after a Lateral Anastomosis," by J. McCrae Dickson, Gettysburg, had been received and would be published, inasmuch as the author had been unavoidably prevented from coming.

The second period was devoted to a symposium on "The Poor Surgical Risk." The following papers were read: "Contributions of the Laboratory in the Diagnosis and Treatment of the Poor Surgical Risk," by John Eiman, Philadelphia; "Complicating Pathologic Factors in Abdominal Cases," by John H. Jopson, Philadelphia; "The Poor-Risk Goiter Case," by Donald Guthrie, Sayre, read in the unavoidable absence of Dr. Guthrie by Stanley D Conklin, Sayre. These papers

were discussed by Frank Lahey, Boston, and James D. Heard, Pittsburgh.

The third period was devoted to a "Symposium on Cancer of the Breast." The following papers were read: "Lantern Demonstration Illustrating Certain Principles in Cancer of the Breast," by Jonathan M. Wainwright, Scranton; "Development of the Modern Operation for Cancer of the Breast," with lantern demonstration, by J. Stewart Rodman, Philadelphia; "Malignant Tumors of the Breast; Amputation without Removal of the Muscles," with lantern demonstration, by Moses Behrend, Philadelphia; and "End Results of Amputation of the Breast for Carcinoma," by John J. Buchanan, Pittsburgh. These papers were not discussed.

The fourth period was devoted to a paper entitled "Surgical Treatment of Gastrojejunal Ulcer," by John B. Deaver, Philadelphia, and a paper by Frank Lahey, Boston, entitled "Gastrojejunal Ulcer; its Diagnosis and Management," with lantern demonstration. These papers were not discussed.

The Section adjourned at 12.50 p.m.

EVAN W. MEREDITH, *Chairman,*
HARVEY F. SMITH, *Secretary.*

Members Registered in the Section on Surgery

ALLEGHENY COUNTY SOCIETY—J. H. Alexander, G. Alvino, C. O. Anderson, W. Anderson, C. S. Apgar, T. S. Armstrong, E. J. Bateman, H. F. Baumann, W. M. Beach, A. J. Bearer, R. J. Behan, N. H. Bennett, G. F. Berg, A. B. Berkowitz, C. F. Bietsch, F. C. Blessing, D. A. Boggs, C. F. Boucek, P. G. Bovard, R. E. Brenneman, J. J. Buchanan, J. H. Carroll, T. B. Carroll, B. Z. Cashman, S. A. Chalfant, A. W. Colcord, W. J. Connelly, G. Conti, G. E. Cramer, E. W. Cross, O. T. Cruikshank, J. H. Curran, N. P. Davis, R. E. Davison, W. A. Dearth, H. R. Decker, H. E. DeWalt, C. C. Dickey, W. T. Dodds, H. H. Donaldson, C. A. Duffy, C. G. Eicher, J. W. Elpinstone, R. M. Entwisle, E. L. Erhard, T. Evans, Jr., J. W. Fredette, R. J. Frodey, J. W. Funk, R. D. Gillis, J. L. Gilmore, W. G. Goehring, J. B. Griffith, J. P. Griffith, P. B. Grogin, A. H. Gross, A. S. Haines, W. E. Hart, M. A. Hershenson, M. B. Hoon, R. R. Huggins, J. A. Huth, J. M. Jackson, E. W. Jew, L. W. Johnson, S. H. Johnson, J. R. Johnston, D. Katz, M. Keller, J. C. Kelly, H. A. Kipp, H. G. Kuehner, H. W. Kunkel, D. R. Kunkelman, L. H. Landon, G. Leibold, H. M. Long, J. Loughrey, D. B. Ludwig, W. H. McCombs, J. F. McCullough, S. L. McCurdy, H. E. McGuire, J. W. MacFarlane, J. S. Mackrell, J. L. Martin, D. B. Martinez, C. C. Mechling, E. W. Meredith, E. F. Meschter, H. A. Miller, E. S. Montgomery, V. Mooney, C. C. Moore, C. K. Murray, S. A. Norris, R. C. Nucci, A. A. Pachel, F. L. Patterson, H. A. Power, W. B. Ray, R. J. Raybeck, N. J. Resmer, D. H. Rhodes, W. H. Robinson, J. A. Ruben, C. N. Schaefer, J. H. Seipel, G. C. Seitz, B. E. Shaw, N. Shillito, F. W. Silsby, M. A. Slocum, E. F. Smith, H. M. Snitzer, T. H. Snowwhite, W. J. Snyder, J. W. Stinson, T. S. Swan, V. D. Thomas, L. L. Thompson, P. Titus, F. L. Todd, H. S. Wallace, O. M. Warner, B. B. Wechsler, J. C. Wiley, C. W. Wirtz, F. Wohlwend, W. M. Woodward.

ARMSTRONG COUNTY SOCIETY—J. M. Cooley, A. Sedwick, H. I. Stitt, J. Ward, E. C. Winters.

BEAVER COUNTY SOCIETY—H. W. Bernhardy, C. J. Buck, H. E. Moore, J. H. Wilson.

BERKS COUNTY SOCIETY—I. G. Shoemaker.

BLAIR COUNTY SOCIETY—H. B. Cunningham, B. B. Levengood.

BRADFORD COUNTY SOCIETY—G. W. Hawk.

BUCKS COUNTY SOCIETY—J. F. Wagner.

BUTLER COUNTY SOCIETY—R. W. Walker.

CAMBRIA COUNTY SOCIETY—B. F. Bowers, P. R. Cleaver, H. F. Garman, J. D. Keiper, J. B. Lowman, W. O. Lubken, W. J. Reddy, J. L. Sagerson, R. J. Sagerson.

CHESTER COUNTY SOCIETY—C. H. Stone.

CLEARFIELD COUNTY SOCIETY—L. F. Stewart, W. O. Wilson.

CLINTON COUNTY SOCIETY—D. W. Thomas.

COLUMBIA COUNTY SOCIETY—J. W. Bruner.

CRAWFORD COUNTY SOCIETY—F. J. Connor, H. C. Winslow.

DAUPHIN COUNTY SOCIETY—S. S. Landis, E. A. Nicodemus, H. F. Smith, G. B. Stull, F. L. Van Sickle.

DELAWARE COUNTY SOCIETY—H. M. Armitage, W. E. Egbert, R. G. Witman.

ERIE COUNTY SOCIETY—J. C. Kibler, F. B. Krimmel, L. A. Lasher, F. P. McCarthy, C. G. Strickland.

FAYETTE COUNTY SOCIETY—A. E. Crow, H. C. Hoffman, J. L. Junk, W. M. Lilley, G. H. Robinson, C. F. Smith, L. C. Waggoner.

HUNTINGDON COUNTY SOCIETY—C. G. Brumbaugh, R. R. Decker, H. C. Frontz.

INDIANA COUNTY SOCIETY—E. Onstott, G. E. Simpson.

JEFFERSON COUNTY SOCIETY—S. M. Free.

LACKAWANNA COUNTY SOCIETY—H. W. Albertson, J. M. Wainwright.

LANCASTER COUNTY SOCIETY—T. B. Appel, J. L. Atlee.

LAWRENCE COUNTY SOCIETY—J. Foster, H. E. Zerner.

LEBANON COUNTY SOCIETY—W. H. Means.

LEHIGH COUNTY SOCIETY—F. R. Wentz.

LUZERNE COUNTY SOCIETY—W. J. Doyle, G. R. Drake, H. B. Gibby, S. P. Mengel, M. C. Rumbaugh.

LYCOMING COUNTY SOCIETY—J. F. Gordner, A. F. Hardt, E. N. Ritter.

MIFFLIN COUNTY SOCIETY—T. H. Smith, C. J. Stambaugh.

MONTGOMERY COUNTY SOCIETY—J. E. Gotwals.

MONTOUR COUNTY SOCIETY—E. H. Adams, H. L. Foss.

NORTHAMPTON COUNTY SOCIETY—J. A. Betts, P. Correll, W. L. Estes, W. L. Estes, Jr., H. J. Schmoyer, L. A. Shoudy.

PHILADELPHIA COUNTY SOCIETY—J. H. Allen, G. M. Astley, J. H. Baldwin, M. Behrend, J. B. Deaver, G. M. Dorrance, J. Eiman, C. H. Frazier, F. C. Hammond, J. H. Jopson, F. E. Keene, W. Krusen, C. B. Longenecker, C. F. Martin, W. J. Merrill, G. B. Miller, D. B. Pfeiffer, J. S. Rodman, J. T. Rugh, D. P. Willard, A. C. Wood.

SCHUYLKILL COUNTY SOCIETY—G. O. O. Santee.

SUSQUEHANNA COUNTY SOCIETY—H. D. Washburn.

VENANGO COUNTY SOCIETY—J. R. Sharp, J. B. Siggins, F. M. Summerville.

WARREN COUNTY SOCIETY—F. G. Haines.

WASHINGTON COUNTY SOCIETY—D. D. Butler, J. H. Corwin, J. F. Donahoo, D. H. Edwards, C. L. Harsha, D. N. Ingram, J. C. Kelso, O. G. Lewis, S. A. Ruben, J. H. Shannon, A. E. Thompson, R. D. Urbahns, P. F. Vaccaro.

WAYNE COUNTY SOCIETY—H. L. Masters.

WESTMORELAND COUNTY SOCIETY—J. H. Hamill, S. G. Henderson, W. A. Marsh, L. M. Sankey.

YORK COUNTY SOCIETY—J. A. Melsheimer.

MINUTES OF THE SECTION ON EYE, EAR, NOSE, AND THROAT DISEASES

Tuesday, October 4, 1927

The first session of the Section on Eye, Ear, Nose, and Throat Diseases was called to order at 2 p.m., in the executive offices of the Hotel Schenley, by the chairman, Stanley S. Smith, Pittsburgh.

Harvey E. Thorpe, Pittsburgh, read a paper entitled "Slit-Lamp Microscopy—A Clinical Aid to Diagnosis in Ocular Injuries" (Lantern Demonstration). This paper was discussed by Adolph Krebs and Benjamin Kuntz, of Pittsburgh.

George B. Jobson, Jr., Franklin, read a paper entitled "Plastic Surgery of Face and Mouth" (Lantern Demonstration). This paper was discussed by Albert A. Bornscheuer, Pittsburgh, and Dr. Jobson in closing.

George E. deSchweinitz, Philadelphia, read a paper entitled "Certain Types of Senile Macular Retinochoroiditis; Their Evolution, Detection, and Treatment" (Lantern Demonstration). There was no discussion of this paper.

Edward B. Heckel moved that a vote of thanks be extended by the Section to Dr. deSchweinitz for his presentation. The motion was seconded and carried by a rising vote.

The Section adjourned.

Wednesday, October 5, 1927

The Section on Eye, Ear, Nose, and Throat Diseases was called to order at 2.15 p.m. by the chairman, Stanley S. Smith, of Pittsburgh.

The result of election of officers for the Section was announced as follows: chairman, Robert F. Ridpath, Philadelphia; secretary, John B. McMurray, Washington.

S. Weir Newmayer, Philadelphia, read a paper entitled "A Survey of the Semiblind School Children in the City of Philadelphia." There was no discussion of this paper.

John M. Wheeler, New York City, read a paper entitled "Pulsating Exophthalmos." This paper was discussed by George E. deSchweinitz, Philadelphia.

Edward B. Heckel, Pittsburgh, reported a case of foreign body in the left orbit.

William W. Blair, Pittsburgh, demonstrated the use of the Tangent-Screen Scotometer with an Illumination Device.

The Section adjourned.

Thursday, October 6, 1927

The Section on Eye, Ear, Nose, and Throat Diseases was called to order at 9.10 a.m., by the chairman, Stanley S. Smith, Pittsburgh.

J. Homer McCready, Pittsburgh, read a paper entitled "Mastoiditis in Infants." This paper was discussed by J. K. Everhart, Thomas B. McCullough, and John R. McCurdy, Pittsburgh; William H. Sears, Huntingdon; Watson Marshall, Pittsburgh; William W. Leach, Apollo; Harold J. Byron, Connellsville; Andrew Hunter, McKeesport; David I. Giarth, Ford City; Michael Depta, Pittsburgh; and the discussion was closed by Dr. McCready.

Willis F. Manges, Philadelphia, read a paper entitled "Lung Abscess Following Tonsillectomy From the Standpoint of the Roentgenologist" (Lantern Demonstration).

Louis H. Clerf, Philadelphia, read a paper entitled "Lung Abscess Following Tonsillectomy From the Standpoint of the Bronchoscopist" (Lantern Demonstration).

The above papers were discussed by J. C. McAllister, Ridgway; J. Homer McCready, Pittsburgh; and in closing by Drs. Manges and Clerf.

Nelson S. Weinberger, Sayre (Principal), and Warren S. Reese, Philadelphia (Associate), presented papers on "A Study of Congenital and Early Developmental Variations of the Eye and Orbit." These papers were discussed by Robert L. Taylor, Pittsburgh, and by Dr. Weinberger in closing.

H. I. Lillie, Rochester, Minnesota, read a paper entitled "Chronic Suppurative Otitis Media." This paper was discussed by John R. Simpson, Pittsburgh; Paul H. Walter, Bethlehem; and Dr. Lillie in closing.

The Section adjourned *sine die*.

Stanley S. Smith, *Chairman*,
Curtis C. Eves, *Secretary*.

Members Registered in the Section on Eye, Ear, Nose and Throat Diseases

Allegheny County Society—J. T. Allison, J. G. Alter, J. C. Anderson, T. S. Anderson, C. F. Bernatz, A. C. Blair, W. W. Blair, W. E. Carson, L. L. Cooper, G. E. Curry, I. Davis, E. W. Day, K. M. Day, S. I. Eber, A. B. Ferguson, N. A. Fischer, J. R. Foight, L. L. Friedman, A. J. Guerinot, J. A. Hagemann, J. A. Hamma, E. B. Heckel, D. E. Hemphill, A. Hunter, C. J. Jaquish, C. W. Jennings, Z. A. Johnston, R. R. Jones, G. C. Kneedler, M. W. Kneedler, H. P. Kohberger, A. Krebs, B. Kuntz, F. C. Larimore, C. F. Lauer, J. G. Linn, E. C. McAdams, G. M. McCain, C. E. McKee, G. J. McKee, R. S. Major, T. H. Manley, Jr., J. C. Markel, C. C. Marshall, W. Marshall, L. O. Meckel, L. M. Mitchell, F. Neely, E. L. Neff, C. S. Orris, J. S. Plumer, O. I. Polk, S. H. Ratner, C. L. Reed, D. G. Richey, F. H. Rimer, I. E. Rowland, A. A. Schlegel, G. H. Shuman, J. R. Simpson, S. Smith, C. C. Stanton, S. A. Sturm, H. H. Sullivan, M. C. Taylor, H. E. Thorpe, H. H. Turner, F. J. Walz, N. J. Weill, E. A. Weisser, E. E. Wible, J. E. Willetts, V. A. Williams, T. C. Zeller.

Armstrong County Society—D. I. Giarth.

Beaver County Society—N. R. Crumrine, W. M. Yost.

Blair County Society—H. H. Dight, S. P. Glover.

Bradford County Society—N. S. Weinberger.

Butler County Society—L. L. Doane, L. R. Hazlett.

Cambria County Society—O. G. A. Barker, H. M. Griffith, L. M. Gurley.

Clearfield County Society—H. C. Hughes.

Crawford County Society—F. A. Clawson, C. Cooper, M. T. Leary.

Dauphin County Society—J. F. Culp.

Delaware County Society—D. J. Langton, C. I. Stiteler.

Elk County Society—J. C. McAllister.

Erie County Society—F. Fisher, Jr.

Fayette County Society—H. J. Byron.

Franklin County Society—F. N. Emmert.

Greene County Society—F. C. Stahlman.

Huntingdon County Society—W. H. Sears.

Lackawanna County Society—F. J. Bishop, C. D. Miller, L. G. Redding.

Lancaster County Society—J. P. Roebuck.

Lawrence County Society—F. F. Urey.

Luzerne County Society—L. T. Buckman, J. J. Dailey, L. H. Taylor.

Mercer County Society—E. MacBride.

Mifflin County Society—J. G. Koshland.

Monroe County Society—W. L. Angle.

Northampton County Society—P. H. Walter.

Philadelphia County Society—S. A. Brumm, L. H. Clerf, J. W. Croskey, G. E. deSchweinitz, C. C. Eves, R. Getelman, W. F. Manges, S. W. Newmayer, W. S. Reese, R. F. Ridpath, G. Tucker.

Schuylkill County Society—T. L. Williams.

Somerset County Society—R. J. Heffley, J. R. Hemminger.

Venango County Society—J. Aaronoff, G. B. Jobson.

Washington County Society—J. W. Ferman, C. T. Graves, J. A. Gormley, H. P. Lynch, C. E. Tibbons.

Westmoreland County Society—C. C. Baldwin.

York County Society—J. F. Klinedinst.

MINUTES OF THE SECTION ON PEDIATRICS

Tuesday, October 4, 1927

The Section on Pediatrics convened in the Children's Hospital, Pittsburgh, at 2 p.m., and was called to order by the chairman, Fred E. Ross, Erie.

The afternoon program was devoted to a clinic at the Hospital. The first period was allotted to the subject of "Postural Defects of Children and their Effects on the General Health," ten minutes being devoted to each of the following subdivisions of the main topic: "Scoliosis," by Paul B. Steele, Pittsburgh; "Two Interesting Cases," by Theodore O. Elterich, Pittsburgh; "Postural Deformities of Knees and Feet," by J. M. King, Pittsburgh; "Muscle Training in Postural Deformities," by Miss Jessie Wright, Pittsburgh (nonmember). These discussions were illustrated by x-ray plates and exhibition of patients.

The second period was taken up with a discussion of two main subjects. The first twenty-five minutes was allotted to a discussion of "Nervous Manifestations of Several Common Pediatric Conditions," the subdivisions being as follows: "Cretinism and Mongolian Idiocy—Borderline Cases with Comparison," "Hydrocephalus," and "Chorea with Reference to the Strict Régime and Good Nursing Care in Treatment," by Henry T. Price, Pittsburgh; "Necessity of Complete Examination for Diagnosis and the Benefit of Ketogenic Diet in Epilepsy," by James LeRoy Foster, Pittsburgh; "Spasmophilia," and "Meningitis," by Henry T. Price, Pittsburgh; "Acute Anterior Poliomyelitis—With Special Reference to Serum Therapy," by G. D. Foster, Pittsburgh. These discussions were illustrated by x-ray plates, and several patients were exhibited.

The next twenty minutes was devoted to a paper by Richard H. Middleton, Pittsburgh, entitled "Discussion of Results in Specific Vaginitis with Demonstration of Method of Treatment." After reading his paper, Dr. Middleton gave a demonstration of the method of treatment.

The third period was also divided, the first twenty-five minutes being devoted by D. Hartin Boyd, Pittsburgh, to a discussion of "Several Unusual Types of Tuberculosis in Children," the subdivisions being as follows: "Miliary Tuberculosis"; "Tuberculosis of Lungs, Intestines, and Meninges"; "Tuberculosis of Lungs and Kidney, with Removal of Kidney"; "Tuberculous Meningitis, with Unusual Clinical Symptoms." Specimens were passed around for the inspection of those present.

Henry C. Flood, Pittsburgh, occupied the next twenty-five minutes in a discussion of "Pericarditis with Effusion," taking in the following subdivisions: rheumatic, pneumococcic, and septic. These cases were all illustrated by x-ray plates.

J. Torrance Rugh, of Philadelphia, discussed the subject of "Scoliosis" presented by Dr. Steele.

The Section adjourned at 4.45 p.m., to make an inspection of the new Children's Hospital. Attendance 106.

Wednesday, October 5, 1927

The Section on Pediatrics convened at 2 p.m., in Room 101, Soldiers' Memorial Hall, Pittsburgh, and was called to order by the chairman, Fred E. Ross, Erie.

The first period was devoted to a "Symposium on the Newborn" (Lantern Demonstration). The following subjects were discussed: "Hemorrhagic Disease of the Newborn," by John F. Coppolino, Philadelphia, Associate; "Syphilis of the Newborn; Value of Early Treatment," by Edward D. Atlee, Philadelphia, Associate; "Three-Hour and Four-Hour Feeding Schedules for the Newborn," by Ralph M. Tyson, Philadelphia, Principal.

The open discussion of these papers was participated in by Leonard F. Bender, Philadelphia; Percival Nicholson, Ardmore; John F. Sinclair, Philadelphia; George J. Feldstein, Pittsburgh; and closed by Drs. Coppolino and Tyson.

The Executive Committee reported that the following officers were nominated to serve for the coming year: chairman, Z. R. Scott, Pittsburgh; secretary, J. Gibson Logue, Williamsport.

Upon motion, duly seconded and carried, Drs. Scott and Logue were elected.

A vacancy having been created on the Executive Committee by the death of Theodore J. Elterich, the chairman appointed James K. Everhart, Pittsburgh, to fill the unexpired term.

The attendance at this session was 60.

At the opening of the second period D. Hartin Boyd, Pittsburgh, offered a resolution to the family of Dr. Theodore J. Elterich to the effect that the Section has appreciated his services, that it has felt his loss very keenly, and that it extends to the family sincere sympathy and regret. It was moved and carried that the resolution be adopted by the Section, that it be spread upon the minutes, and a copy sent to the family of Dr. Elterich.

The second period was devoted to a joint meeting of the Sections on Pediatrics and Urology, the program being a "Symposium on Urology in Childhood." The following papers were read: "Enuresis—Etiology and Treatment," by John McK. Mitchell, Bryn Mawr; "Etiology, Diagnosis, and Medical Treatment of Acute Pyelitis in Children," by Norbert D. Gannon, Erie; "Practicability of the Modern Cystoscope in Urology of Infancy and Childhood" (Lantern Demonstration), by Leon Herman, Philadelphia; "Diagnosis and Surgical Treatment of Urologic Conditions in Children" (Lantern Demonstration), by Benjamin A. Thomas and Joseph C. Birdsall, Philadelphia (the paper was read by Dr. Birdsall). "Chronic Pyelitis in Infancy and Childhood," by Henry F. Helmholz, Rochester Minn.; "Borderline Problems Occurring in Urology" (Lantern Demonstration), by Herman L. Kretschmer, Chicago, Ill.

The discussion was opened by Alfred Hand, Philadelphia, and (in the absence of Arthur I. Murphy, Pittsburgh) Alexander Randall, of Philadelphia. Dr. Helmholz closed the discussion.

After a vote of thanks was extended to the guests, the Section adjourned at 5.30 p.m. Attendance 86.

Thursday, October 6, 1927

The Section on Pediatrics convened at 9 a.m., in Room 101, Soldiers' Memorial Hall, Pittsburgh, and was called to order by the chairman, Fred E. Ross, Erie.

The first period was devoted to a "Symposium on Preventive Pediatrics." The following papers were read: "Preventive Pediatrics from an Infant-Feeding Standpoint," by Harvey O. Rohrbach, Bethlehem; "The Rôle of the Pediatric Clinic in Preventive Medicine," by Leonard F. Bender, Philadelphia; "The Influence of Mental Guidance and Habit Formation on the Future Welfare of the Child," by George J. Wright, Pittsburgh.

The open discussion was participated in by Lawrence Litchfield and Henry T. Price, of Pittsburgh.

The second period was devoted to a "Symposium on the Use of Light Therapy in Children" (Lantern Demonstration). The following papers were read: "Quartz Light in Skin Diseases of Children," by Lawrence G. Beinhauer, Pittsburgh; "Light Therapy in Deficiency Diseases of Children," by Percival Nicholson, Ardmore; "Light Therapy in Nonpulmonary Tuberculosis in Children," by Richard T. Ellison, Philadelphia.

There being no discussion of these papers, Dr. Nicholson added a few extemporaneous remarks to his paper.

During the third period the following case reports were presented: "Osteogenesis Imperfecta," by Frank P. McCarthy, Erie; "Herpes Zoster Ophthalmicus in a Fifteen-Months-Old Child," by Robert Knox, Washington; "Lymphoblastic Leukemia Occurring in Twins," by Alvin E. Siegel, Philadelphia; "Erythema Infectiosum," by Joseph B. Feeley, McKeesport; "Intestinal Obstruction Due to a Duodenal Band" (Lantern Demonstration), by George J. Feldstein, Pittsburgh; "Purpura Hemorrhagica in a Two-Months-Old Infant" (Lantern Demonstration) by John F. Sinclair, Philadelphia; "Rural Health Work with a Traveling Unit" by Mary Riggs Noble, Harrisburg; "Diphtheria Control," by J. Bruce McCreary, Harrisburg.

The case of Dr. Feldstein was discussed by J. L. Foster and Theodore O. Elterich, of Pittsburgh.

Dr. McCreary's remarks on the question of furnishing toxin-antitoxin were discussed by J. Gibson Logue, Williamsport, and Percival Nicholson, Ardmore.

The fourth period was devoted to a paper entitled "Diagnosis and Treatment of Meningitis in Children," by L. E. LaFetra, New York. There was no discussion of this paper.

After a rising vote of thanks had been extended to Dr. LaFetra, the Section adjourned at 1 p.m. Attendance 54.

Fred E. Ross, *Chairman,*
Z. R. Scott, *Secretary.*

Members Registered in the Section on Pediatrics

Allegheny County Society—J. L. Amshel, J. S. Baird, H. J. Benz, A. A. Bornscheuer, D. Hartin Boyd, A. A. Dranga, E. S. Duncan, T. J. Elterich, R. L. Ertzman, J. K. Everhart, J. B. Feeley, G. J. Feldstein, H. C. Flood, J. L. Foster, C. A. Hauck, J. D. Iams, J. W. Ildza, R. A. King, E. G. Kuhlman, D. Lipschutz, R. N. Lowrie, A. S. McElroy, S. C. McGarvey, P. C. Marks, J. Z. Mase, H. O. Mateer, E. O. Pearson, H. T. Price, A. H. Riethmuller, E. A. Robinson, J. A. Rodgers, Z. R. Scott, A. R. Trevaskis, C. W. Vates, C. K. Wagener.

Beaver County Society—H. C. McMillan.

Bedford County Society—H. L. Dovey.

Berks County Society—F. P. Lytle.

Butler County Society—F. E. DeLong, A. I. Stewart.

Cambria County Society—H. J. Cartin, W. F. Mayer.

Clarion County Society—C. V. Hepler.

Clearfield County Society—J. M. Quigley.

Crawford County Society—C. M. Hazen.

Cumberland County Society—J. B. McCreary, R. R. Spahr.

Dauphin County Society—M. R. Noble.

Delaware County Society—R. B. Loughead.

Erie County Society—N. D. Gannon, F. E. Ross.

Fayette County Society—D. D. Brooks, H. E. Hall, C. W. Utts.

Greene County Society—D. R. Jacobs.

Jefferson County Society—J. G. Kearney, J. A. Newcome.

Lancaster County Society—W. J. Leaman, H. B. Roop, E. K. Smith.

Lawrence County Society—F. D. Campbell.

Lebanon County Society—J. D. Kerr.

Lehigh County Society—F. R. Bausch, T. H. Weaber.

Luzerne County Society—E. L. Meyers.

Lycoming County Society—J. G. Logue, G. W. Muffly, R. K. Rewalt.

Montgomery County Society—H. A. Bostock, A. L. Dewees, J. McK. Mitchell, P. Nicholson, W. R. Roberts.

Northampton County Society—H. O. Rohrbach.

Philadelphia County Society—E. D. Atlee, L. F. Bender, J. F. Coppolino, J. D. Donnelly, J. S. Gallagher, A. Hand, F. Janvier, H. H. Jenks, J. F. Sinclair, M. Solis-Cohen, R. M. Tyson.

Somerset County Society—C. J. Hemminger, H. C. McKinley.

Washington County Society—C. C. Cracraft, J. W. Hunter, R. A. Knox, C. F. Linn, E. McKay, F. I. Patterson.

Wayne County Society—R. G. Barckley.

Westmoreland County Society—J. R. Eisaman, E. L. Piper.

MINUTES OF THE SECTION ON DERMATOLOGY

Tuesday, October 4, 1927

The Section on Dermatology convened in Room 102, Soldiers' Memorial Hall, Pittsburgh, at 2 p.m., the chairman, Joseph V. Klauder, Philadelphia, presiding.

John H. Stokes, Philadelphia, presented a paper entitled "The Practitioner and the Treatment of Neurosyphilis," and William D. Whitehead, Scranton, presented a paper entitled, "Eruption Incident to Antisyphilitic Therapy." These two papers were discussed by Fred D. Weidman, Philadelphia, and Frederick M. Jacob, L. G. Beinhauer, and George J. Busman, Pittsburgh.

George Miller MacKee, New York City, presented a paper entitled "Dangerous Skin Lesions," illustrated with lantern slides.

In the "Symposium on Tuberculosis of the Skin," the following papers were read: "Classification of Tuberculosis of the Skin," by Franklin B. Miller, Pittsburgh; "Diagnosis of Tuberculosis of the Skin," illustrated with lantern slides, by Patricia Hart-Drant, Philadelphia; and "Treatment of Tuberculosis of the Skin," by Frederick M. Jacob, Pittsburgh. These papers were discussed by William H. Guy, Pittsburgh;

Fred D. Weidman, Philadelphia; and Lester Hollander, Pittsburgh.

Chairman Klauder reported for the Executive Committee that the following officers were nominated to serve for the coming year: chairman, Jay F. Schamberg, Philadelphia; secretary, Lester Hollander, Pittsburgh. Upon motion made by John W. Barr, Johnstown, duly seconded and carried, Drs. Schamberg and Hollander were unanimously elected.

The Section adjourned at 5 p.m.

Joseph V. Klauder, *Chairman,*
Lester Hollander, *Secretary.*

Members Registered in the Section on Dermatology

Allegheny County Society—F. Amshel, H. L. Baer, L. G. Beinhauer, D. N. Bulford, G. J. Busman, S. R. Cohen, D. H. Cooper, S. Crawford, B. A. Goldmann, J. Gorfinkell, W. H. Guy, J. J. Hecht, L. Hollander, F. M. Jacob, S. H. McKibben, S. Mann, F. B. Miller, L. L. Schwartz, A. M. Stanton, W. Tomlinson, H. G. Wertheimer, W. H. Wolf.

Cambria County Society—J. W. Barr.

Dauphin County Society—E. S. Everhart.

Erie County Society—E. Steinberg.

Lackawanna County Society—W. D. Whitehead.

Lawrence County Society—W. A. Womer.

Mercer County Society—W. M. Writt.

Montgomery County Society—P. W. McLaughlin.

Philadelphia County Society—P. Drant, J. P. Guequierre, J. V. Klauder, H. G. Munson, J. H. Stokes, F. D. Weidman.

Schuylkill County Society—W. Dzurek, J. G. Kramer.

Somerset County Society—C. T. Saylor.

Westmoreland County Society—J. H. Fiscus.

MINUTES OF THE SECTION ON UROLOGY

Wednesday, October 5, 1927

The Section on Urology convened in Room 102, Soldiers' Memorial Hall, Pittsburgh, at 2.20 p.m.

Alexander Randall, Philadelphia, reported that a year ago a petition to organize a section on urology had been handed to the House of Delegates of the State Society, signed by one hundred and fifty men interested in urology, who were members of the State Society, and this petition was fathered by B. A. Thomas, Philadelphia. The 1926 House of Delegates authorized the creation of the Section on Urology. At a meeting of the Urological Society in Philadelphia last fall, eighteen members in caucus decided upon the following plan —to ask twelve members from different portions of the State to act on an organization committee. The following accepted the appointment: Alexander Randall, Philadelphia, Chairman, James C. Burt, Pittsburgh, Edw. J. McCague, Pittsburgh, George L. Armitage, Chester, Daniel P. Ray, Johnstown, Peter P. Mayock, Wilkes-Barre, Elmer Hess, Erie, Carlyle N. Haines, Sayre, John Oenslager, Harrisburg, H. A. Gailey, York, B. A. Thomas, Philadelphia, and Thomas C. Stellwagen, Jr., Philadelphia.

Dr. Randall presented the correspondence in connection with the election of the chairman and secretary of the Section, letters of acceptance, etc.

Dr. Randall then called to the chair James C. Burt, chairman of the Section on Urology, and B. A. Thomas, secretary of the Section.

Secretary Thomas read the By-Laws governing the order of business and the procedure in carrying on the work of different sections, starting on page 35 of the Constitution and By-Laws of the Medical Society of the State of Pennsylvania.

Chairman Burt then called for nominations for two members to serve on the Executive Committee, one to serve two years and one to serve one year.

Peter P. Mayock, Wilkes-Barre, was nominated by Dr. Oenslager, Harrisburg, to serve two years.

David L. Simon, Pittsburgh, moved the nominations be closed. This motion was seconded and carried.

Alexander Randall, Philadelphia, was nominated by Dr. J. E. Birdsall, Philadelphia, to serve one year.

Dr. Hankey, Pittsburgh, moved that the nominations be closed. This motion was seconded and carried.

Secretary Thomas cast the unanimous vote of the Section for Dr. Mayock to serve on the Executive Committee for two years and for Dr. Alexander Randall to serve one year.

The Executive Committee then retired and reported nominations for the coming year as follows: chairman, Hiram R. Loux, Philadelphia; secretary, B. A. Thomas, Philadelphia.

Dr. Randall, on behalf of the Executive Committee, asked consideration of the adoption of a rule that the individual elected to the position of Secretary accept it with the understanding that he will serve for a period of three years, this to be an unwritten rule.

David L. Simon, Pittsburgh, moved that such a rule be adopted. The motion was seconded and carried.

Joseph C. Birdsall, Philadelphia, moved that the report of the Executive Committee be accepted. The motion was seconded and carried unanimously, and Chairman Burt declared Drs. Loux and Thomas elected chairman and secretary respectively.

The meeting adjourned at 2.30 to go into joint session with the Section on Pediatrics (see minutes on page 108).

Thursday, October 6, 1927

The Section on Urology convened in Room 102, Soldiers' Memorial Hall, Pittsburgh, at 9 a.m., the chairman, James C. Burt, Pittsburgh, presiding. The total number present was 80.

In the "Symposium on Gonococcic Infection and its Complications," the following papers were read: "The Status of the Treatment of Gonorrhea," by George A. Holliday, Pittsburgh; "Gonorrheal Arthritis in the Adult Male; Correlation of Clinical and Urologic Findings; Treatment by Direct Injection of the Seminal Vesicles," by Thomas C. Stellwagen, Jr., and James F. McCahey, Philadelphia (read by the latter); "The Treatment of Urethral Stricture, Prostatitis, and Seminal Vesiculitis," by Peter P. Mayock, Wilkes-Barre; and "Male Sterility," by William H. Mackinney, Philadelphia. These papers were discussed by Carl C. Yount, Pittsburgh; B. A. Thomas, Philadelphia; Elmer Hess, Erie; William C. Bryant, Pittsburgh; with a closing discussion by Dr. McCahey.

In the "Symposium on Prostatic Obstruction," the following papers were read: "Factors Determining the Palliative Versus the Operative Treatment of the Prostate," by Clifford M. Lane, Pittsburgh; "Considerations Governing the Adoption of the Proper Operative Route," by Edward J. McCague, Pittsburgh; "Pre- and Postoperative Care in Prostatectomy," by Willard H. Kinney, Philadelphia; and "Operative Technic in Prostatic Surgery," by Elmer Hess, Erie. These papers were discussed by Stacy M. Hankey, Pittsburgh; H. R. Loux, Philadelphia; James C. Burt and I. L. Ohlman,

Pittsburgh; Benj. A. Thomas, Philadelphia; Jacob D. Keiper, Johnstown; and in closing by Drs. McCague and Hess.

In the "Symposium on Urinary Lithiasis," the following papers were read: "Etiology of Urinary Calculi," by Daniel P. Ray, Johnstown; "The Diagnosis of Urinary Calculi," by Herman A. Gailey, York; "Rapidity of Growth of Urinary Calculi," illustrated with lantern slides, by Alexander Randall, Philadelphia; and "Treatment of Urinary Lithiasis," by William L. Estes, Jr., Bethlehem. These papers were discussed by Wilbur H. Haines, Philadelphia, and I. L. Ohlman, Pittsburgh.

Under "Case Reports," the following papers were presented: "Prolapse of the Urethra in Childhood," by Hiram R. Loux, Philadelphia; "Extensive Tumor of Corpus Cavernosum," by David P. McCune, McKeesport; "Stricture of the Ureter Associated with Lues," by Sylvia J. Roberts, Harrisburg; "Incontinence From Retention of Urine Due to Fecal Impaction Incident to Congenital Rectal Obstruction," by Enoch H. Adams, Danville; "Complete Retention Due to Prostatic Hypertrophy, Complicated by Stricture," by Joseph Appleyard, Lancaster; and "Two Cases of Ruptured Kidney," by Oscar E. Fox, Reading.

The meeting adjourned at 12.45 p.m.

James C. Burt, *Chairman.*
Benjamin A. Thomas, *Secretary.*

Members Registered in the Section on Urology

Allegheny County Society—B. R. Almquest, R. L. Anderson, T. Baker, W. C. Bryant, J. C. Burt, S. S. Carrier, G. H. Davison, T. L. Disque, K. D. Eskey, M. E. Farah, E. W. Goldstein, S. M. Hankey, R. C. Hibbs, H. C. Hieber, G. A. Holliday, L. G. Ignelzi, C. M. Lane, J. J. Lee, A. H. McCreery, D. P. McCune, G. F. MacDonald, I. L. Ohlman, R. H. Pearlman, J. M. Reed, S. J. Rosen, N. L. Rosenberg, D. L. Simon, F. X. Straessley, H. L. Wignall.

Beaver County Society—A. B. Cloak, J. F. Gilliland, J. L. Whitehill.

Berks County Society—O. E. Fox.

Cambria County Society—H. F. Gockley, D. P. Ray.

Clearfield County Society—S. J. Miller.

Dauphin County Society—J. Oenslager, Jr., S. J. Roberts.

Delaware County Society—G. L. Armitage.

Erie County Society—D. E. Hess.

Fayette County Society—R. P. Beatty, R. R. Morrison.

Jefferson County Society—H. W. Lyon, F. D. Pringle.

Lancaster County Society—J. Appleyard.

Lawrence County Society—T. M. Shaffer.

Lehigh County Society—W. C. Masonheimer.

Luzerne County Society—P. P. Mayock.

Lycoming County Society—J. P. Harley, A. C. Lamade.

Northampton County Society—B. M. Hance.

Philadelphia County Society—J. C. Birdsall, S. Chartock, M. B. Emanuel, L. B. Greene, W. H. Haines, F. G. Harrison, L. Herman, W. H. Kinney, H. R. Loux, J. F. McCahey, P. S. Pelouze, A. Randall, I. P. Strittmatter, B. A. Thomas.

Schuylkill County Society—J. S. Callen, M. C. Householder.

Washington County Society—D. H. Ruben.

Westmoreland County Society—J. S. Anderson.

York County Society—H. A. Gailey.

Registration by Counties

Adams—1	Lancaster—12
Allegheny—642	Lawrence—11
Armstrong—18	Lebanon—2
Beaver—21	Lehigh—7
Bedford—6	Luzerne—11
Berks—4	Lycoming—15
Blair—8	McKean—3
Bradford—5	Mercer—11
Bucks—1	Mifflin—4
Butler—12	Monroe—1
Cambria—34	Montgomery—12
Carbon—0	Montour—6
Center—1	Northampton—14
Chester—5	Northumberland—0
Clarion—5	Perry—0
Clearfield—10	Philadelphia—91
Clinton—3	Potter—0
Columbia—2	Schuylkill—8
Crawford—9	Snyder—1
Cumberland—4	Somerset—10
Dauphin—19	Sullivan—0
Delaware—11	Susquehanna—1
Elk—4	Tioga—1
Erie—21	Union—0
Fayette—25	Venango—10
Franklin—3	Warren—3
Greene—8	Washington—49
Huntingdon—6	Wayne—3
Indiana—9	Westmoreland—34
Jefferson—12	Wyoming—1
Juniata—0	York—8
Lackawanna—12	

Active members registered.....	1,250
Guest physicians registered.....	81
Total physicians registered.....	1,331

Registered Visitors

Alfred W. Adson, Rochester, Minn.; Walter C. Alvarez, Rochester, Minn.; Donald C. Balfour, Rochester, Minn.; D. C. Brennan, Akron, Ohio; William H. Cameron, New York, N. Y.; John A. Card, Poughkeepsie, N. Y.; Thomas B. Echard, St. Petersburg, Fla.; Ivan Fawcett, Wheeling, W. Va.; Morris Fishbein, Chicago, Ill.; Louis Hamman, Baltimore, Md.; Henry F. Helmholz, Rochester, Minn.; Herman L. Kretschmer, Chicago, Ill.; Joseph S. Lawrence, Albany, N. Y.; L. E. LaFetra, New York, N. Y.; Frank Lahey, Boston, Mass.; H. I. Lillie, Rochester, Minn.; T. J. McBee, Morgantown, W. Va.; L. McCutchen, St. Louis, Mo.; George M. MacKee, New York, N. Y.; John J. Moorhead, New York, N. Y.; L. H. Newburgh, Ann Arbor, Mich.; M. E. Slattery, Vineland, N. Y.; John M. Wheeler, New York, N. Y.; F. J. Arch, Gerald S. Backenstoe, William A. Barrett, S. Berenfield, Allison J. Berlin, Joseph V. Bisciglia, John R. Conover, Eugene A. Conti, Enrico G. Coscia, Elliot C. Flick, Donald A. Fusia, John W. Gordon, Jr., Charles S. Greene, John H. Heintzelman, Z. L. Henry, J. Hersh, J. E. Holt, William T. Hunt, Jr., Paul A. Johnson, John M. Johnston, George J. Kastlin, Jennings M. King, Jr., William A. King, Edward Kisel, Robert S. Lucas, John J. McCague, Thomas W. McCreary, William S. McEllroy, John F. McVey, Harry Markowitz, J. Allen Martin, Louis L. Means, Irvin D. Metzger, Kenneth F. Miller, G. H. Miles, S. W. S. Dinsmore, Merl A. Newell, E. R. Quinn, Thomas Richards, Donald E. Robinson, James M. Rodgers, G. Scullard, George A. Skinner, James W. Speelman, D. J. Stewart,

H. S. Toukatlian, Pittsburgh; C. R. Bonzo, Ambridge, Pa.; William St. Clair Campbell, Seward, Pa.; Martin J. Costello, Philadelphia, Pa.; J. Clarence Funk, State Health Department, Harrisburg, Pa.; William F. Gerhart, Philadelphia, Pa.; Louis A. Larson, Kane, Pa.; Harold H. McBurney, Burgettstown, Pa.; LeRoy N. A. Maeder, Philadelphia, Pa.; W. C. Toll, Monessen, Pa.

Delegates From Other Societies

Jabez N. Jackson, President, American Medical Association; James E. Sadlier, Medical Society of the State of New York; Albert Robin, Delaware State Medical Society; C. W. Hagan, Pennsylvania State Dental Society.

Women Visitors Registered

(Exclusive of Allegheny County)

Armstrong—4	Lackawanna—1
Bedford—4	Lancaster—5
Berks—1	Lawrence—3
Blair—1	Lebanon—2
Bradford—1	Lehigh—4
Butler—4	Luzerne—2
Cambria—14	Lycoming—6
Chester—2	McKean—2
Clarion—1	Mercer—5
Clearfield—7	Mifflin—5
Clinton—1	Montgomery—6
Columbia—1	Montour—1
Crawford—4	Northampton—4
Dauphin—4	Philadelphia—20
Delaware—3	Schuylkill—3
Elk—2	Somerset—4
Erie—10	Susquehanna—1
Fayette—7	Tioga—2
Franklin—1	Venango—10
Greene—3	Washington—18
Huntingdon—3	Wayne—1
Indiana—1	Westmoreland—7
Jefferson—5	York—5
	Total—201

THE SCIENTIFIC EXHIBIT OF 1927

As a matter of record, and for the information of future committees the very successful scientific exhibit is described in full:

Continuous Exhibits in Booths

Clinical Pathologic Exhibit: This consisted of a great variety of laboratory material, including serologic, bacteriologic, and fresh pathologic specimens. The demonstration with fresh structures *in situ* showed the relationship as well as the pathology of the different organs. Microscopic slides illustrated the contrast between various similar microörganisms. This demonstration was continuous daily from 9 a.m. to 5 p.m., and was in charge of Dr. A. J. Bruecken, chairman of the Scientific Exhibit. He was assisted at this booth by the following physicians: October 4th—Drs. Permar, Cohen, Markowitz, McClellan, and Vandegrift; October 5th—Drs. Lacy, McElroy, Helmbold, Scullard, and Sensroth; October 6th—Drs. Baker, McMeans, Joyce, Yardumian, and Ballagi.

Roentgenograms of the Nasal Accessory Sinuses: These were exhibited by Dr. George W. Grier, and were displayed in a large illuminated case.

Heart Exhibit: This was conducted by the Philadelphia Heart Association, and consisted of charts illustrating various points in diagnosis, treatment, and prevention. A portable electrocardiograph was used to demonstrate this phase of heart work, and cardiagrams were made of visitors to the booth.

State Health Department Exhibit: This exhibit included seven illuminated graphs, showing morbidity and mortality statistics. There were also two pin maps showing the number of maternal deaths by counties, and the activities of the Child Health Bureau. An automatic projector illustrated the work of all bureaus of the Department. An automatic motion-picture machine showed the purification of water in a modern filter plant, including chlorination. A map showed a coöperative milk-inspection district in Pennsylvania. An exhibit of live mosquitoes showed the life cycle of this pest, the means by which they breed, and methods of extermination. The Department also maintained a rest room, with telephone and stenographic service for the benefit of visiting physicians.

Section Exhibits in Booths

Section on Medicine: Pathologic specimens from the University of Pittsburgh. Demonstrations by Drs. Maclachlan, Cohen, Menten, and associates from 5 to 6 p.m. daily.

Section on Urology: The bacteriology and clinical course of gonorrhea in the male, by Drs. Pelouze and Schofield. Radiograms of normal and diseased seminal vesicles, by Drs. Thomas, Pancoast, and Harrison. Demonstration by the above physicians on October 5th and 6th, 1-2 p.m. and 5-6 p.m.

Section on Eye, Ear, Nose, and Throat Diseases: Demonstration of tangent-screen scotometer with illumination device, by Dr. W. W. Blair, October 5th, 4.15-5 p.m.

Demonstration Room

Daily demonstration of the results of periarterial sympathectomy in leg ulcers, etc. From the Mayview Hospital, Pittsburgh. Presented by Dr. R. J. Behan.

Section on Pediatrics: Daily demonstration of diphtheria prevention—Schick test and toxin-antitoxin, by Drs. H. J. Bentz and C. B. Maits, of the Department of Health of Pittsburgh.

Section on Surgery: Fractured femur in the newborn; use of a simple fixation apparatus, by Dr. Paul B. Steele. Fractures of the clavicle; the application of a simple fixation apparatus, by Drs. Landon and McConnell. Colles's fracture; method of splinting, by Dr. John H. Wagner. (October 4th.)

Section on Surgery: Demonstration of a new apparatus for giving intravenous infusion, by Dr. Paul Titus. Demonstration of a blood-transfusion apparatus, by Dr. Moses H. Baker. Infection of the extremities; method of applying the large wet dressing, by Drs. Singley and Slocum. (October 5th.) Fractures of the femur; application of the Thomas splint, by Dr. John H. Alexander. Method of applying the molded plaster splint, originated by Dr. J. J. Buchanan, presented by Dr. Morris A. Slocum. (October 6th.)

Section on Eye, Ear, Nose, and Throat Diseases: Transillumination, by Dr. Curtis C. Eves and associates. (October 4th.)

Section on Dermatology: Clinical demonstration of syphilis, tuberculosis, and malignancy of the skin, by members of the Pittsburgh Dermatological Society. (October 5th.)

MINUTES OF THE SECRETARIES' CONFERENCE

Hotel Henry, Pittsburgh, October 4, 1927

The Secretaries' Conference was called to order by Henry G. Munson, chairman, at 5.30 p.m.

On motion of Edgar S. Buyers, the minutes of the previous meeting (1926), as printed in the November, 1926, Journal, were adopted.

Papers were read as follows: "The Four Reasons Set Forth in our Official Application Blank Why Every Qualified Physician Should Unite with a County Medical Society":

1. "Because it Unites the Representative Men of the Medical Profession," by Walter F. Donaldson, secretary of the Medical Society of the State of Pennsylvania.

2. "Because of its Postgraduate Work," by Wilton H. Robinson, chairman Postgraduate Committee, Allegheny County Medical Society.

3. "Because of its Service in Advancing and Conserving the Corporate Interests of its Membership," by Charles D. Ambrose, secretary Westmoreland County Medical Society.

4. "Because of its Altruistic Interest in Improving Public Health," by Joseph J. Meyer, secretary Cambria County Medical Society.

Discussion of these four propositions was presented by George E. deSchweinitz, of Philadelphia, ex-president of the A. M. A.; Morris Fishbein, of Chicago, editor of the *Journal of the American Medical Association* and of *Hygeia;* Edward B. Heckel, of Pittsburgh, chairman of the Board of Trustees of the A. M. A.; Theodore B. Appel, of Harrisburg, Secretary of Health, Commonwealth of Pennsylvania; and Harry W. Albertson, of Scranton, ex-president of the Medical Society of the State of Pennsylvania.

President Morgan spoke at the close of the session on county medical societies' activities in spreading information on health laws.

Dinner was served at the conclusion of the meeting, at which time Jabez N. Jackson, of Kansas City, president of the American Medical Association, spoke on "Idealism in Medicine."

Dr. Sadlier, president of the Medical Society of the State of New York, spoke briefly. Other guests were presented.

The committee on nominations for next year, Drs. Brenholtz and Logan, reported the following nominations, and the nominees were duly elected: *president,* John M. Beck, Huntingdon, secretary Huntingdon County Medical Society; *vice-president,* Ambrose W. Thrush, Chambersburg, secretary Franklin County Medical Society; *secretary,* James E. O'Toole, Scranton, secretary Lackawanna County Medical Society; *executive committee,* David W. Thomas, Lock Haven, secretary Clinton County Medical Society; Persis Straight Robbins, Bradford, secretary McKean County Medical Society; W. Minster Kunkel, Harrisburg, secretary Dauphin County Medical Society.

There were present thirty component-county-society secretaries, eight officers of the State Society, and twenty guests, as follows: Alexander H. Colwell, Allegheny County; Jay B. F. Wyant, Armstrong County; Boyd B. Snodgrass, Beaver County; John E. Livingood, Berks County; Ralph W. Walker, Butler County; Joseph J. Meyer, Cambria County; Charles C. Ross, Clarion County; John M. Quigley, Clearfield County; David W. Thomas, Clinton County; Edgar J. Werle, Crawford County; Richard R. Spahr, Cumberland County; Walter E. Egbert, Delaware County; Samuel G. Logan, Elk County; Joseph A. Stackhouse, Erie County; Ambrose W. Thrush, Franklin County; John M. Beck, Huntingdon County; Alexander H. Stewart, Indiana County; William A. Womer, Lawrence County; Walter S. Brenholtz, Lycoming County; Persis Straight Robbins, McKean County; Edith MacBride, Mercer County; James A. C. Clarkson, Mifflin County; Walter L. Angle, Monroe County; Edgar S. Buyers, Montgomery County; Henry G. Munson, Philadelphia County; Arthur B. Fleming, Schuylkill County; Henry C. McKinley, Somerset County; Charles C. Cracraft, Washington County; Charles D. Ambrose, Westmoreland County; Pius A. Noll, York County; Ex-President Harry W. Albertson, Scranton; President Arthur C. Morgan, Philadelphia; Walter F. Donaldson, Pittsburgh; Christian B. Longenecker, George A. Knowles, Frank C. Hammond, Philadelphia; U. Grant Gifford, Kennett Square; William T. Sharpless, West Chester; Jabez N. Jackson, Kansas City, Mo.; Joseph S. Lawrence, Albany, New York; James E. Sadlier, Poughkeepsie, New York; John A. Card, Poughkeepsie, New York; Morris Fishbein, Chicago, Ill.; Theodore B. Appel, Harrisburg; George E. deSchweinitz, Wilmer Krusen, Frederick S. Baldi, Seth A. Brumm, John W. Croskey, Henry D. Jump, Philadelphia; Edward B. Heckel, Wilton H. Robinson, Pittsburgh; Edward Pardoe, South Fork; A. Lovett Dewees, Haverford; Thomas H. Smith, Burnham; Charles J. Stambaugh, Reedsville; David I. Giarth, Ford City; Oscar E. Fox, Reading.

John M. Beck, *Secretary.*

Officers' Department

A. C. MORGAN, M.D., Sc.D., F.A.C.P.
President
2018 Chestnut Stret
Philadelphia, Pa.

THE PRESIDENT'S PAGE

It will be the privilege and pleasure of your president to present messages each month to our large membership, and we invite suggestions, constructive criticism, and inquiries from any source, with the hope that this departure will serve to maintain the personal touch between officers and members. We have found, during the past year, that topics of more than local interest have been discussed among society groups, but the good work had not been continued and fell to the wayside.

The consensus of opinion is that the recent Pittsburgh session was an unusually profitable and successful one. While formal resolutions and thanks have been presented, we feel under personal obligation to the general committee of arrangements under the able chairmanship of Dr. Robert L. Anderson. The Allegheny County Society, under direction of President Henninger, had their members so conveniently placed that some one was at once available from early morning to late evening to satisfy every desire.

The management of Hotel Schenley likewise deserve our best thanks for smooth functioning

in spite of their added burden in caring for guests at the World Series. Chairman Anderson informed us that the Schenley folk, who had granted us free parking space on Forbes Street, declined a handsome financial offer to rent it for the ball games, as they felt obligated to stand by their agreement previously made.

The House of Delegates functioned with promptness and dispatch. It was pleasing to note new faces among this group, so that the younger physicians may become imbued with the spirit of altruism that always marks the deliberations of this body.

The scientific program proved to be unusually attractive, as shown by the good attendance at the several sessions and sections throughout the meeting. Only one or two on the program failed us, and valid excuses were offered.

The scientific exhibit proved to be valuable, and good "ward classes" were always present. Postmortem eviscerations showed their value and importance from pathologic and medicolegal aspects. It would seem that "fresh-specimen" demonstrations put the lesson over in more forceful manner than a series of mountings.

The commercial exhibits were fairly balanced, well located, and reports to the general office indicate that our exhibitors were well satisfied.

The Woman's Auxiliary held their own business sessions, and are now a permanent part of our State organization. The wonder is that this movement had not been inaugurated long years ago. The Allegheny County Auxiliary provided a rich variety of entertainments for the ladies. Keep watch on the work that will be accomplished by the Auxiliary during this year under the able leadership of its president, Mrs. Charles H. Smith, of Uniontown.

As to the permanent results of the annual meeting:

Very little will be gained if we rest content with the pleasurable memories of Pittsburgh.

The members of the House of Delegates should convey to their societies the resolutions and motions adopted; the discussions on the floor; the informal views expressed; change of existing procedures, if any; need of new legislation; and, above all, the enlargement of spirit that comes from mutual contact.

The working tools of the doctor, whether in metallic substance from the supply houses, or the many suggestions offered during the presentation and discussion of subjects in scientific meetings that widen the mental and spiritual outlook, should make us better physicians and humans.

If some of these principles shall become a real part of those who were in attendance, the good that will come out of the Pittsburgh session will be never-ending.

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade Building
Pittsburgh, Pa.

NOTES ON THE 1927 SESSION

Throughout the session and culminating in the second meeting of the House of Delegates, much was said about the great burden of expense for social entertainment falling upon the members of the component society entertaining the State Society at its annual sessions. Since the by-laws of the State Society provide that the President's reception and ball shall be arranged and financed by the State Society, the plan for having the Society contribute largely to the financing of the entertainment of members on Monday and Tuesday evenings, and of the ladies throughout the session, found plenty of support.

Having so recently heard so much of theater parties and smokers in connection with scientific medical meetings, we opened with extraordinary interest our copy of the program for the 1927 session of the Interstate Post-Graduate Medical Association meeting in Kansas City, a five-day session with scientific programs beginning at 7 a.m., 1 p.m., and 7 p.m. each day. The only social entertainment arranged for members during the five days and nights was a reception at 10.30 p.m. on Tuesday and a banquet at 7 p.m. on the last day. The 7 a.m. programs on Tuesday, Wednesday, Thursday, and Friday were opened by Drs. Bevan of Chicago, Lahey of Boston, Brooks of New York, and Judd of Rochester, respectively. The four evening scientific programs were closed at 10 p.m. by Drs. Frankel of Vienna, Steinman of Berne, Rea E. Smith of Los Angeles, and Dandy of Baltimore. On Wednesday, luncheon was served to the visiting women, and on Thursday tea, following a drive.

Is there not much food for thought for all of us, and especially the 1928 Scientific Program Committee and the Lehigh County Medical Society Committee on Arrangements, in the repeated experiences of the Interstate Association, which annually draws from every corner of this country scores of contributors and hundreds of listeners to its programs?

In the 1927 House of Delegates, when the proposal was made to have the State Society contribute an additional $1,500 toward defraying expenses for social entertainment at the annual sessions of the Society, one speaker expressed

as a reason for supporting the proposal the following: "The proposed financial assistance would enable some of the smaller county societies to entertain the State Society at its annual sessions, and as a result, members of the society thus entertaining would be forced to serve on various arrangement committees and in this way become interested in State Society work and attendance upon future meetings of the State Society, thereby greatly increasing the annual registration."

In 1924, for the first time in seventeen years, the Medical Society of the State of Pennsylvania was entertained by the Berks County Medical Society (about 130 members). We give herewith the registered attendance at several annual sessions of the State Society of members of the Berks County Medical Society:

1920 at Pittsburgh	3
1921 at Philadelphia	39
1922 at Scranton	4
1923 at Pittsburgh	4
1924 in Berks Co. (Reading)	125
1925 at Harrisburg	34
1926 at Philadelphia	30
1927 at Pittsburgh	4

It is apparent from the 1921, 1923, 1926, and 1927 figures that the stimulation received by Berks County Society members in 1924 was, to say the least, fleeting.

The Public Meeting in connection with the Seventy-seventh Annual Session, held in the great auditorium of the magnificent Soldiers' Memorial Hall, was an unqualified success. A large audience had assembled at 7.45 p.m., when an attractive picture was thrown on the screen which graphically depicted the advantages of a periodic physical examination for a man's own body as well as for his motor car. A second picture silently but forcibly contrasted the tragedy and the joy attendant upon neglect of and the adoption of the protection of little children against diphtheria by means of the Schick test and the use of toxin-antitoxin.

Following these portrayals of approved sickness-prevention methods, Morris Fishbein, M.D., Editor of the *Journal of the American Medical Association* and of *Hygeia,* addressed the audience. Dr. Fishbein spoke fluently and impressively for more than an hour on the subject of "Fads and Quackery." The force of his arraignment, substantiated by historic references, exposed for the contemplation of his hearers the same vein of avarice and the same will to believe inherent in all quacks and their dupes from Elisha Perkins in 1795, to Chiropractor B. J. Palmer in 1927. The boldness of his attack impressed his hearers with the impregnability of his position on the subject, and must have convinced all present, capable of being swayed by intellect rather than by emotion, that the discoveries of Pasteur and Lister transcend in service to humanity the fads and quackery inspired by Eddy and Abrams.

We are indebted to the Pennsylvania Department of Health for the diphtheria film, and to the Metropolitan Life Insurance Company for the film "For Dear Life." We appreciate so thoroughly the presence of Dr. Fishbein on this occasion, as well as in the opening General Meeting, House of Delegates, and Secretaries' Conference, that we herewith express the hope not only that he will come again to our annual session, but that the Board of Trustees of the American Medical Association will in their wisdom make it possible for Editor Fishbein to visit many constituent state associations.

Much credit for the success of the session should go to the members of the Allegheny County Medical Society. Of their 1,268 active members, 642 registered, comprising 51 per cent of the total registration from all counties. Thus was formed the backbone of the attendance at all meetings and social functions.

Apropos of the importance of registration and attendance by members of the county society entertaining the State Society at its annual session, we publish the following figures:

1927 at Pittsburgh—total registration 1,250; Allegheny County, 642.

1926 at Philadelphia—total registration 1,278; Philadelphia County, 485.

1925 at Harrisburg—total registration 1,015; Dauphin County, 124.

1924 at Reading—total registration 883; Berks County, 125.

1923 at Pittsburgh—total registration 1,262; Allegheny County, 661.

The Scientific Exhibit, easily surpassing all previous attempts, was featured by the continuous demonstration of fresh pathologic specimens, and the bedside clinics given periodically in the demonstration room. That full credit may be given to those who contributed so much to the outstanding scientific feature of the session and guidance recorded for future committees, we publish elsewhere in this number in detail the action program of the Scientific Exhibit.

The opening General Session, held in the spacious and handsomely furnished Lounge of the University Club, was attended by approximately five hundred members and guests. To those of our members who were not present, we commend the reading of the minutes of the meeting published in this number of the Journal. Probably the most interesting feature of the

morning was the presentation of an inscribed gavel to each of the five ex-presidents who served prior to 1915, before the custom of presenting a gavel to the retiring president was established. The gracious ceremony of presentation and acceptance was heartening to the older members present and inspiring to the younger members, and was favorably commented upon by representatives from other state medical societies and the American Medical Association. The opening meeting of the General Session, with its touch of sentiment and ceremony, is always worthy of a large attendance; in fact, the writer, from years of observation, believes that the inspiration received by members in attendance upon this meeting is sustained throughout the session.

President Jabez N. Jackson of the American Medical Association; Drs. Sadlier, Lawrence, and Card, officers of the New York State Medical Society; Drs. Albert Robin and C. W. Hagan, delegates from the Delaware State Medical Society, and the Pennsylvania State Dental Society respectively, were welcome guests at many meetings during the session. President Jackson's splendid address may be found in the minutes of the opening General Meeting published in this number of the Journal.

THE YELLOW INSERT

Did you remove from your October, 1927, copy of the Atlantic Medical Journal the full-page yellow insert placed there with the hope that you would make a contribution or provide a legacy for the benefit of our Medical Benevolence Fund? Contributions have been received to date from the following:

From Harry W. Albertson, Scranton, $100; from the Woman's Auxiliary of the Medical Society of the State of Pennsylvania, $100; from George J. Feldstein, Pittsburgh, $5; from Max H. Weinberg, Pittsburgh, $5; from John H. Page, Austin, $5; from Daniel Longaker, Philadelphia, $5; from J. V. McAninch, Alicia, $5; from R. C. Kirkwood, Stockton, California, $10; from "Rural—Bucks County," $5; from D. S. Funk, Harrisburg, $5.

Of these, one (Dr. Kirkwood) made a ten-dollar payment on a twenty-five dollar pledge, stating in the letter accompanying his check: "I enclose $10 and will send the other $15—$5 at a time about a month apart. That is a noble cause and as a Pennsylvanian I want to be identified with it."

The Board of Trustees, in their acceptance of the contribution from the Woman's Auxiliary, endorsed the work of the Auxiliary in behalf of the Benevolence Fund.

Even if you cannot find your yellow insert, the Secretary will be pleased to acknowledge your contribution, which may be paid in one or several installments.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

Allegheny County: *New Members*—Mark Keller, 316½ Sixth St., McKeesport; John A. Martin, 963 Milton St., Pittsburgh; Edward V. Weller, 1536 Brighton Road, Pittsburgh. *Reinstated Members*—Francis M. Caldwell, 2918 Clermont Ave., Pittsburgh; Joseph G. Steedle, Union Trust Bldg., Pittsburgh. *Death*—Joseph H. Hoffman, Pittsburgh (Jeff. Med. Coll. '83), August 16, aged 68. *Removal*—Ira C. Duncan from Broadway, East McKeesport, to Darlington Road, Patterson Heights, Beaver Falls (Beaver Co.); Ralph L. Hill from Woodville to Wernersville (Berks Co.).

Berks County: *New Members*—Harry B. Corrigan, 1029 N. Ninth St., Reading; Pearl E. Hackman, 245 N. Fifth St., Reading; Martin M. Wassersweig, 1059 N. Tenth St., Reading.

Blair County: *Transfers*—Jesse Margolis, 1903 Seventh Ave., Altoona, from Fayette County Society; Jacob C. Rosen, 1718 N. Seventh St., Philadelphia, formerly of Pottstown, to Philadelphia County Society. *Death*—James G. Watson, Juniata (Phila. Univ. of Med. & Surg. '76), August 17, aged 76.

Cambria County: *New Member*—George G. Ebandjieff, 244½ Market St., Johnstown.

Crawford County: *Removal*—George Faries, from Meadville to 36 S. Third St., Lewisburg (Union Co.).

Dauphin County: *Removal*—I. Samuel Marshall, from Halifax to 1652 Walnut St., Harrisburg.

Delaware County: *New Member*—William H. Goodman, 2411 West Third St., Chester.

Indiana County: *Removal*—Edward B. Haegle from 1012 E. Broad St., Hazleton, to 54 W. Keller St., Mechanicsburg (Cumberland Co.).

Lancaster County: *Death*—George C. Kinard, Lincoln (Univ. of Md. '85), September 13, aged 66.

Luzerne County: *New Members*—Agnes N. Flack, 47 Wyoming Ave., Kingston; J. T. McAloose, 2 N. Tamaqua St., McAdoo; William F. Roth, 387 Wyoming Ave., Kingston. *Transfers*—Vincent Gallizzi, Pittston, from Northampton County Society; Robert Goodman, Huntington Mills, from Philadelphia County Society. *Removal*—Otto C. Reiche, from Wilkes-Barre to Markle Bank Bldg., Hazleton.

Lycoming County: *Removal*—D. Hoster Swengel, from Muncy to Lewisburg (Union Co.).

McKean County: *New Member*—Lloyd R. Carson, 26 Main St., Bradford.

Northampton County: *New Member*—Morris Smith, 861 E. Fourth St., Bethlehem.

Philadelphia County: *New Members*—Carl Bachman, 1918 Pine St.; Horace B. Conaway, 1803 Pine St.; Nathaniel S. Duff, 2022 N. Mervine St.; Worth B. Forman, 1105 E. Rittenhouse St., Germantown; S. Rosa Frank, 1617 68th Ave.; James McG. Hincken, 2500 S. Colorado St.; Ralph W. McDowell, U. S. Naval Hospital, Navy Yard; Gulden Mackmull, 1801 W. Cayuga St.; Francesco Mogavero, 1311 S. Fifteenth St.; Margaret J. Nash, 3513 N. 23d St.; Donald H. Noble, U. S. Naval Home, Navy Yard; Paul R. Stalnaker, 2514 S. Lambert St., Philadelphia. *Reinstated Members*—James D. Brittingham, 4011 Chestnut St.; Rudolph Blum, 5413 Berks St.; Nathan Blumberg, 1922 Spruce St.; Martin J. Costello, 328 E. Meehan Ave., Germantown; Harrington S. Dickinson, 1631 Girard Ave., Philadelphia; William A. N. Dorland, Box 1, 185 N. Wabash Ave., Chicago, Ill.; Leon-

ard D. Frescoln, 411 S. 44th St.; Samuel T. Gordy, 4543 N. 10th St.; George B. Gray, 6118 W. Oxford St.; Abraham D. Halperen, 2335 S. 8th St., Philadelphia; Wilfred W. Hawke, Clifton Heights; Frederick C. Hutton, 1409 N. 15th St.; Harry K. Katz, 1012 Cottman St.; Samuel Leopold, 1923 Spruce St.; Howard K. Longshore, 1506 Locust St.; Cornelius T. McCarthy, 1810 Pine St.; Milton K. Meyers, 1529 S. Broad St.; William F. Monaghan, 901 N. 44th St.; Allen G. Sampson, 2834 Columbia Ave.; Julius Schneyer, 1831 Spruce St.; Elijah H. Siter, 512 Medical Arts Bldg.; J. Howard Smith, 5741 Florence Ave.; Edmund B. Sweeney, 1721 N. 16th St.; Frank A. Thompson, 5108 Springfield Ave.; Charles J. Watson, 5617 N. 3d St.; William R. Watson, 2124 Pine St.; Milton N. White, 701 N. 42nd St., Philadelphia; S. Elizabeth Winter, Innwood Sanitarium, W. Conshohocken; Valentine W. M. Wright, 1820 Pine St., Philadelphia. *Removal*—Gordon F. Willey, from 5936 Carpenter St., Philadelphia, to 42 Taylor Blvd., Harrisburg. *Deaths*—Henry N. Diamond, Philadelphia (Medico-Chir. Coll. of Phila. '09), September 11, aged 45; John W. Dick, Philadelphia (Jeff. Med. Coll. '66), August 20, aged 82.

Schuylkill County: *New Member*—William H. Clewell, Coaldale.

Union County: *Death*—Weber L. Gerhart, Lewisburg (Hahnemann Med. Coll. '87), August 17, aged 62.

Venango County: *Removal*—Frank E. Coughlin, from Franklin to State Department of Health, Harrisburg (Dauphin Co.).

Washington County: *New Members*—Robert D. Urbahns, Odelli Bldg.; Philip F. Vaccaro, Trust Bldg., Monongahela.

Wayne County: *Removal*—Asa L. Hickok, from Waymart to R. D. No. 3, Bellefonte (Center Co.).

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since September 12. Figures in the first column indicate county society numbers; second column, State Society numbers:

Sept.	16	Berks	136–138	7605–7607	$12.50
	20	Washington	138–139	7608–7609	5.00
	21	Northampton	137	7610	5.00
	21	McKean	37	7611	5.00
	21	Perry	16	7612	5.00
	27	Schuylkill	159	7613	5.00
	29	Luzerne	279–281	7614–7616	15.00
	29	Cambria	163	7617	5.00
	30	Blair	104	7618	5.00
Oct.	13	Philadelphia	2051–2100	7619–7668	220.00
	13	Allegheny	1287–1291	7669–7673	22.50
	17	Delaware	113	7674	2.50

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

Mrs. E. Kirby Lawson, *Editor*,
2533 Walnut Street,
Harrisburg, Pa.

A MESSAGE FROM THE PRESIDENT

It is indeed a great honor that you have bestowed upon me in electing me president of the Auxiliary, and not upon me only but also upon Fayette County. While I appreciate the honor, I feel my shortcomings as the executive head of the organization; but that I may be able to carry forward, with your assistance, the work so ably started by my predecessors is my earnest wish.

We have a right to be genuinely optimistic with regard to the future of the Auxiliary. We are a recognized part of the State Medical Society, and should therefore assume our responsibilities and interest ourselves in health work, and have a definite goal for the future accomplishments of the Auxiliary.

Those of us who attended the State meeting in Pittsburgh were refreshed by the spirit of good fellowship that existed and which no doubt will bring about practical results. Reports of this meeting to the County Auxiliaries from members who attended will be expected as an incentive to the ones who were absent.

The use of this department of the Atlantic Medical Journal has been graciously offered the Auxiliary for furthering the work, and it is hoped that we shall avail ourselves of this offer. As soon as possible a list of the officers and committee heads will be announced in this column.

It gives me much pleasure to tell the members that Mrs. George H. Robinson, 168 South Beeson St., Uniontown, Pa., has consented to serve as corresponding secretary, and any communications sent to her will be given attention.

If there are unorganized counties that wish to organize, I shall be most happy to be of service to them.

For the success of the Auxiliary, I request the support and coöperation of the entire membership—which I feel sure will be cheerfully accorded.

Mary M. (Mrs. Charles H.) Smith, *President.*

MINUTES OF THE ANNUAL MEETING

October 3 to 6, 1927

The third annual meeting of the Woman's Auxiliary to the Medical Society of the State of Pennsylvania was held in Pittsburgh, Pa. The executive-board supper took place October 3d, at 7.30 p.m. in the Athletic Association, with fourteen members present.

The House of Delegates met in the same building at 9.30 Tuesday morning, October 4th, with Mrs. J. Newton Hunsberger, president, in the chair, and Mrs. Myer Solis-Cohen as secretary.

Rev. Stewart Hutchinson made the invocation, and Dr. Charles H. Henninger, president of the Allegheny County Medical Society, welcomed the visiting women, the president of the Auxiliary responding.

The minutes of the second annual meeting, held in Philadelphia, were read and approved.

The president reported as follows:

During the twelve busy months that are about to end, there have been many happenings that cannot be mentioned in this report, but which leave in their wake only pleasant recollections.

I fully appreciated the honor that was conferred upon me when I accepted this office, and realized, too, the great responsibility attached. Because of the crowded program I was unable to express my gratitude to you at that time. Not being forewarned, I was not forearmed, and it has been quite im-

possible to accomplish any great amount of work in the given time.

Since the medical meetings have become "family affairs," we seem to have a new viewpoint, a broader vision, and we rejoice that we can be of service to our doctors and our fellow men in the making of better health.

As your president, it has been my pleasure and privilege to represent you on many occasions. I was the guest of Lehigh County at their eighth annual meeting and banquet. Mrs. H. E. Klingaman, their president, accompanied me, some weeks later, when we visited the Lackawanna County Auxiliary. On my journey to Clearfield County, Mrs. H. C. Frontz joined me at Huntingdon. The warmth of the greeting of the women of York County compensated for the small number who represented the county at their organization meeting. Several times I have enjoyed participating in the Philadelphia County meetings, and it was with the deepest regret that, of necessity, I could not fulfill other appointments, especially with Allegheny County. Never yet have I been absent from our own County Auxiliary meetings.

It was gratifying to meet with Camden County, N. J., at their initial gathering, and to bring greetings from Pennsylvania to the newly organized State of New Jersey. I was also present at every session of the National Auxiliary at Washington, and made the report for Pennsylvania.

A meeting of the Executive Board was held in Harrisburg on June 26th, with fourteen members present.

Many inquiries are still coming in as to the why, the what, and the how of the Auxiliary, and if time would permit, an open forum might be beneficial. I trust the reports given at these meetings will solve many of the difficulties.

May I, at the close of the year, stress again, as I did in the beginning, "self-education." This is the fundamental principle. It has been said "educate the mother, and you educate the family." If we educate a doctor's wife in matters that pertain to public health, her influence will be felt far beyond the family circle. Herbert Hoover says that "fifteen years of really concerted, organized, scientific effort for health, especially of our children, will advance our nation physically, mentally, morally, and economically three generations." That should be "nuf sed"!

Your president suggests that you secure, through the American Association for Medical Progress or the American Medical Association, their instructive pamphlets on various subjects that can be used as material for a paper to be compiled and read in your meetings, or as material for discussion.

I wonder what percentage of those present have had a thorough periodic health examination, and mean to follow it up next year? Let us set the example for *our* doctor and those outside the profession. The value of such a move cannot be estimated.

Do we subscribe to and *read Hygeia?* This is possibly the most valuable of all the magazines published in America today.

Have we acquainted ourselves with the purpose and the working of the Medical Benevolence Fund? We have not organized for social activities only; there is work for us to do. People everywhere are beginning to look to us as leaders in health education. We dare not disappoint them, or our future efforts will avail little.

During the year five counties—Clearfield, York, Franklin, Northampton, and Indiana—have organized. One has disbanded, but I am happy to say is about to reorganize. Of the 63 counties having medical societies, 28 have auxiliaries, with a paid-up membership of 1,229.

The Committee on Public Health Legislation of the State Medical Society, in their report to the House of Delegates, published in the September ATLANTIC MEDICAL JOURNAL, paid us a glowing compliment for the manner in which we conducted our legislative work last winter.

The publication of the quarterly *Bulletin* is not yet an assured fact, and due to the severe illness of Mrs. Allen H. Bunce, there has been no issue since the Washington meeting. We hope that provision can be made for the distribution of this interesting little paper.

In a communication just received from Mrs. E. V. DePew, our national president's secretary, she desires that your president request each auxiliary to have one large open meeting this year for health education, and procure the best available speakers. Also that each county ascertain, through its local, city, or county health officer, which ward or township has the highest infant death rate. She requests that a survey be made to determine how many of our doctors' wives are now actively engaged in health work of any kind, and how many are holding office in other clubs.

The members of my executive family have been an inspiration to me in the work. To our faithful secretaries I owe a debt of gratitude. They have been ever willing and ready to comply with my requests. Our treasurer, though ill for several months, has cheerfully helped untangle the financial snarls. Our editor, ever prompt, has been a joy to work with. The near-at-hand members acted often as an advisory board, and helped me over the rough places.

I thank you, one and all, for your loyal support, and although this circle will undergo reorganization, I trust it will be only to enlarge its radius, and that we shall never cease to use our influence to promote the good work started.

SUSAN F. B. (MRS. J. NEWTON) HUNSBERGER, *President.*

The corresponding secretary read her annual report, as follows:

My first duty as corresponding secretary was to prepare for mailing the president's first circular letter to each of the twenty-four organized auxiliaries. This contained the plan and stipulation for the *Hygeia* subscription campaign. This was followed by packages of working material for the campaign.

In order to know more of the whys and wherefores of the unorganized counties, a communication was sent to each county where there was a medical association with sufficient membership to warrant an auxiliary. Letters were addressed to the secretaries of the county medical societies, but very few responded.

Mrs. Allen H. Bunce, the national secretary, requested a typewritten list of our entire membership, so that the *Bulletin* issued by the National Auxiliary could be mailed to each member. If you did not receive the *Bulletin* published in April, 1927, you will know that your name and address are not on her list, and perhaps you did not comply with my request. At that time I suggested that you have several carbon copies made so that we should have two copies for our files, one for Mrs. Bunce, and one for our president and secretary, also one for your own files. These lists are very helpful to the executives and beneficial to you as well. I thank the many who responded so promptly.

During the session of the State Legislature last year, following the dictates of Dr. George A. Knowles, chairman of the legislative committee of the State Society, we sent many special-delivery and night letters while the chiropractic, naturopathic, and one-board bills were being agitated. A favorable result, I am sure, was due to your prompt response to this request.

Notices were sent out for a meeting of the Executive Board in Harrisburg, on June 26th.

While attending the A. M. A. meeting in Washington, I met a number of our county secretaries and exchanged greetings. These get-together meetings are very helpful, and I hope we may have a liberal exchange of ideas while in Pittsburgh.

My duties as secretary of our county auxiliary, along with the work that comes to the corresponding secretary of the State organization have kept me busy, but I am glad to have added my bit to the success of so great an organization. Your president and I have sent out at least seven hundred pieces of mail. The record of the incoming mail has not been kept. This is but initial work, so you can see that there is work ahead if material results are to be accomplished. As the year neared its close, there was much to be done. In July, questionnaires were prepared and mailed with the official call for the State meeting. Indeed, many of our letters contained a twofold and sometimes a threefold message.

The membership of the different county auxiliaries (according to the lists received last April) is as follows: Allegheny 265, Beaver 56, Berks 27, Bucks 18, Butler 26, Cambria 75, Carbon 8, Chester 30, Clearfield 20, Dauphin 52, Fayette 53, Greene 12, Huntingdon 17, Lackawanna 51, Lebanon 20, Lehigh 86, Lycoming 45, Mifflin 18, Montgomery 61, Montour 11, Northumberland 18, Philadelphia 147, Potter 6, Westmoreland 49, York 11. The new counties are: Clearfield 20, York 11, Northampton 37, Franklin 14, and Indiana 8.

MRS. H. C. PODALL, *Corresponding Secretary.*

The treasurer made the following report:

RECEIPTS FOR THE YEAR ENDING OCTOBER 3, 1927

County	*No. of Members*	*Amount*
Allegheny	255	$255.00
Beaver	62	62.00
Berks	27	27.00
Bucks	18	18.00
Butler	27	27.00
Cambria	50	50.00
Carbon	8	8.00
Chester	31	31.00
Clearfield	27	27.00
Fayette	50	50.00
Franklin	18	18.00
Greene	17	17.00
Huntingdon	14	14.00
Lackawanna	50	50.00
Lebanon	20	20.00
Lehigh	70	70.00
Lycoming	35	35.00
Mifflin	18	18.00
Montgomery	57	57.00
Montour	8	8.00
Northampton	37	37.00
Northumberland	11	11.00
Philadelphia	247	247.00
Potter	6	6.00
Westmoreland	52	52.00
York	14	14.00
Total,	1,229	$1,229.00

EXPENDITURES FOR THE YEAR ENDING OCTOBER 3, 1927

Check No.	*To*	*Amount*
8	Mrs. Bertha G. Johnston, railroad expense	$98.00
9	Rose Murway, stenographic work	4.00
10	Mrs. S. Chalfant, stenographic work	3.00
11	Void	
12	Mrs. F. R. Bausch, expenses	9.75
13	Mrs. Warren Davis, refund	183.00
14	State Medical Society, Benevolence Fund	100.00
15	Mrs. W. W. Babcock, executive board supper	23.75
16	Mrs. McReynolds, railroad expense	85.00
17	Mrs. Bausch, savings account	300.00
18	Mrs. Johnston, printing	8.00
19	Mrs. Abell, A.M.A. dues	89.75
20	O. K. Mohr, printing	4.25

Check No.	To	Amount
21	James Wood, bond	$2.50
22	Mrs. Abell, A. M. A. dues	150.00
23	Mrs. Hunsberger, printing	43.75
24	Mrs. Hunsberger, A. M. A. dues	121.21
25	Mrs. Wilson, typing, etc.	2.08
26	O. K. Mohr, printing	3.40
27	Mrs. Hunsberger, *Hygeia* prizes	50.00
28	Mrs. Hunsberger, printing Constitution, etc.	23.90
	Total,	$1,305.34

CASH ACCOUNT

Cash received in 1927	$1,229.00
Cash received from October, 1926, to January, 1927	75.00
Balance from 1926 (audit)	1,002.50
Total,	$2,306.50
Expenditures for year	1,305.34
Balance in bank	$1,001.16
Amount in Savings Fund, Citizens' Trust Co., Allentown, Pa.	300.00
Interest	6.01
Total balance on hand,	$1,307.17

MRS. FREDERICK R. BAUSCH, *Treasurer.*

Mrs. J. DeWitt Kerr, Chairman of the Auditing Committee reported that the committee had examined the treasurer's accounts and found them to be correct.

The recording secretary reported as follows:

Tabulated replies to the questionnaires sent out in July, are as follows: Seventeen counties responded—Allegheny, Beaver, Bucks, Clearfield, Dauphin, Fayette, Franklin, Greene, Lebanon, Lehigh, Montgomery, Montour, Northampton, Northumberland, Philadelphia, Westmoreland and York. Lehigh carried off the honor as being the first organized, in 1919, before the State Auxiliary was formed.

About half the counties replying had increased their membership during the year. Two thirds said the interest had increased due to leadership, better organization, interesting meetings, coöperation of members, social functions, and the realization of members that the Auxiliary fulfills its purpose—education, helpfulness, and affiliated interests.

Five counties hold monthly meetings, two bimonthly with executive meetings the alternate months, and the majority have four meetings during the year. More than half the auxiliaries find it beneficial to hold their meetings coincident with the doctors' meetings.

About fifty per cent of the members subscribed to *Hygeia.*

It was difficult to secure, in many cases, a record of those members who have had periodic health examinations. Twelve certainties were recorded.

The Pennsylvania Auxiliary had the largest representation (42 registered) at the annual national meeting in Washington, D. C., and to date seven counties report that they will be represented at Minneapolis.

Following are some of the outstanding activities participated in by the county auxiliaries: (1) Placed new library in children's hospital. (2) Contributed to staff library. (3) Contributed to medical center. (4) Furnished hostesses during "Titania's Palace Exhibit" for the benefit of children's hospital. (5) Took charge of an all-day exhibit at an educational association meeting. (6) Placed *Hygeia* in many schools. (7) Beaver County secured 220 subscriptions to *Hygeia.* (8) Had educational talk at every meeting. (9) Held one public meeting, with three hundred attendance. (10) Held social meetings with doctors as guests. (11) Gave gifts of money and clothing to poor children at Christmas. (12) Gave an afternoon outing to poor children. (13) Took active part in legislative matters, as directed. (14) Encouraged periodic health examinations. (15) Increased good fellowship among our members. (16) Stimulated the attendance at the county medical meetings. (17) Assisted flood sufferers through the Red Cross. (18) Purchased piano for county medical society building. (19) Contributed to Physicians' Aid Society. (20) Many other activities of less moment have been participated in by the women of the Auxiliary. We regret that the reports of several other counties were received too late for tabulation.

ROSEBUD TESCHNER (MRS. MYER) SOLIS-COHEN,
Recording-Secretary.

The report of the chairman of public relations was read by Mrs. Samuel Bolton, as follows:

During the 1927 session of the Legislature, the Department of Health sponsored five bills for the improvement of the administration of our health laws. They passed the Legislature, were signed by the Governor, and are now laws.

The first amends the law of 1905, in which prosecutions called for a court proceeding. Now any violation of the law may be enforced by summary conviction before a justice of the peace, alderman, or magistrate in the county in which each violation is committed.

The second relates to the establishment and maintenance of boards of health in boroughs and townships of the first class, and permits appointment of either a health officer or a health board to enforce the laws. If a health officer is appointed, he shall have all the powers and duties prescribed for boards of health and the same authority, but such an officer shall have had training in public-health work, and must be so certified by the State Secretary of Health. There are other provisions to be complied with, but the chief advantage of this law seems to be that it permits elimination of boards of health where it seems wiser to have a single health officer.

The third law makes it possible for several small boroughs to unite in the appointment of a health officer, and permits county funds to be appropriated for the salary of such an officer. This should increase the efficiency of health control.

The fourth law holds the secretary of the health board or the health officer directly responsible for the reporting of communicable diseases to the Pennsylvania State Health Department.

The fifth law repeals the Act of 1915 relating to the operation of public eating and drinking places, and substitutes a new act. This new law goes more into detail with reference to cleanliness of public eating and drinking places, and provides for the physical examination of all persons employed about these places, and for the cleansing of utensils used in public kitchens and dining rooms.

The One Board Bill was introduced, but remained in committee; also the bills pertaining to naturopathy, chiropody, beauty parlors, and sale of milk. The Chiropractic Bill (House 933) passed the House. Later, a joint hearing of the House and Senate Committees on Public Health and Sanitation was held on this bill. As a result, it was not brought out of the Senate Committee.

House bills 1480 and 1375, the first relating to annual registration of nurses, and the second amending the act establishing a State Board of Examiners for Nurses, remained in committee. Senate bill 865, regulating State registration of nurses, was passed in an amended form, requiring one year of high school or its equivalent for admission to an approved training school for nurses. House bill 1498, amending the medical clauses of the Workmen's Compensation Act was defeated in the House.

As a result of the introduction each legislative year of so many bills pertaining to the healing art, a joint resolution (Senate bill 1326), creating a Commission to Study the Laws Relating to the Healing Art, defining its powers and duties, and making an appropriation, was passed. This commission shall consist of twelve persons: one licensed and qualified regular physician, one homeopathic physician, one eclectic, one osteopath, one chiropractor, one naturopath, and four unprejudiced laymen unconnected with any branch or school of the healing-art profession. The other two shall be the chairmen of the Committees on Health and Sanitation of the House and Senate. An appropriation of $20,000 was made for the expenses of the commission. The duty of the commission is to study the laws of our own and other states and countries relating to the education, examination and licensure of persons practicing the healing art, the laws regulating the various schools of the healing art and administration of these laws, to frame a bill or bills for the proper regulation, control, and administration of these various schools and of persons engaging or intending to engage in the practice of the healing art, and to make a report of its work, together with drafts of legislation which it proposes, to the General Assembly of 1929, not later than February 1st.

A circular letter was sent to each county auxiliary president or chairman of legislation in the State early in the year, calling attention to the duties of our committee, and suggesting helps in the way of *Hygeia* and reports obtainable from the Legislature. Also, when information was received from superior officers that would be helpful to the county auxiliaries, it was promptly forwarded. After the close of the legislative session, a final circular letter was sent to each county auxiliary, urging a full report to the members of everything pertaining to the healing art that occurred during the session.

Being a committee of an auxiliary organization, we have felt it to be our province to work only under the guidance of the legislative committee of the State Medical Society, and we desire to express appreciation to them for their ready kindness at all times. We also heartily thank our efficient president, Mrs. J. Newton Hunsberger.

LOUISE K. (MRS. JOHN G.) WILSON, *Chairman.*

The report of the chairman of education and publicity was read, as follows:

There is abundant evidence of the growing strength of the Woman's Auxiliary of the Medical Society of the State of Pennsylvania. We now have twenty-eight county auxiliaries in actual existence, representing about twelve hundred members. A large number of them have outlined definite educational programs, and have been earnest in carrying them out. Not all the auxiliaries have sent in their reports. We are interested in every one of them, whether the membership is large or small. It is always stimulating to hear just what each one of them is doing. We know that a small membership is a handicap, but some of the smaller organizations are doing very fine work. Allegheny, with its large membership, has reported very remarkable programs. Westmoreland deserves honorable mention for the frequency of its reports. We earnestly hope that our new chairman will hear from every auxiliary in the State.

We suggest that every report be typewritten, otherwise, the secretary is obliged to have it done before sending it for publication, which incurs a great expense for one who does not have a typewriter. If your reports are not published in full, it is because the press is privileged to cut down a lengthy article for want of space, and it is frequently necessary to do this.

Mrs. DePew, Mrs. MacReynold's secretary, wishes to keep a scrapbook of clippings of auxiliary activities, poems, children's sayings, etc. These will be forwarded through the State editor to the National editor for publication in the *Bulletin.*

FRANCES S. (MRS. SAMUEL) BOLTON, *Chairman.*

The report of the chairman of *Hygeia* was read by the secretary, as follows:

Herewith is submitted the report of the contest carried on in the various branches of the Auxiliary throughout the State, ending June 1st.

The first prize of $25 goes to Beaver County, with 411 per cent; the second prize of $15 to Montour County, with 177.2 per cent; the third prize of $10 to Lackawanna County, with 108 per cent. Allegheny County did splendid work, gaining 163 points, but with a membership of 245, they dropped to fifth place on a percentage basis.

There must be a very strong effort made to have each auxiliary realize that this is work assigned us to do, and it is not a question for debate.

Following is a tabulated report for the year ending October 3, 1927:

County	*Chairman*	*Points*	*1926 Membership*	*Percentage*	*Place*
Beaver	Mrs. M. M. Mackall	214	52	411.	1
Montour	Mrs. D. B. McHenry	16	9	177.2	2
Lackawanna	Mrs. Isaac Goodman	27	25	108.	3
Montgomery	Mrs. E. S. Buyers	39	50	78.	4
Allegheny	Mrs. David B. Ludwig	163	245	66.5	5
Lehigh	Mrs. Frank S. Boyer	41	70	58.5	6
Westmoreland	Mrs. W. J. Walker	8	30	26.6	7
Chester	Mrs. Oscar J. Klevan	6	23	26.08	8
Philadelphia	Mrs. N. S. McDowell	33	183	18.	9
Total,		547			

SARAH HAMILTON (MRS. HOWARD) MELLOR, *Chairman.*

The recommendations of the Executive Board were presented and voted upon.

It was moved and carried that Pennsylvania auxiliaries assume the financial and executive responsibility of editing and publishing one number of the *Bulletin* sponsored by the National Auxiliary, to be known as the "Organization Number."

It was moved and carried that one hundred dollars be presented to the Medical Benevolence Fund of the State Medical Society from the Auxiliary fund.

It was moved and carried that the paid-up membership at the time of our annual meeting shall be the basis for our national dues.

Article I, Section I of the Constitution was amended to include a president-elect among the officers. Other amendments were also acted upon.

The report of a delegate to the Woman's Auxiliary to the American Medical Association, held in Washington, D. C., in May, was presented, as follows:

Pennsylvania was proud to have had the largest number of members present at this session. The meetings were interesting, especially the inspiring talk on the work of the Red Cross by Miss Boardman and the address on "National Defense" by Mrs. William Sherman Walker. Truly we have been accepted as a useful organization, from the facts that our National President, Mrs. John O. McReynolds, was invited to speak to the House of Delegates, and that 40,000 pieces of mail were sent out by the National Secretary, Mrs. Allen Bunce, of Atlanta, Ga.

President and Mrs. Coolidge invited the Auxiliary to the White House grounds, where they received us most cordially. The social side of the meeting was truly typical of Washington hospitality. The one outstanding event was the impressive exercises at Arlington, when a wreath was placed on the grave of the unknown soldier by the president of the American Medical Association.

GRACE W. (MRS. WILLIAM E.) PARKE, *Delegate.*

The Nominating Committee presented the following report: president, Mrs. Charles H. Smith, Uniontown, Fayette County; president-elect, Mrs. J. M. Wainwright, Scranton, Lackawanna County; first vice-president, Mrs. Charles S. Rebuck, Harrisburg, Dauphin County; second vice-president, Mrs. John F. McCullough, Pittsburgh, Allegheny County; third vice-president, Mrs. A. C. Morgan, Philadelphia, Philadelphia County; recording secretary, Mrs. Myer Solis-Cohen, Philadelphia, Philadelphia County; treasurer, Mrs. Charles B. Forcey, Ambridge, Beaver County; directors for three years, Mrs. W. Wayne Babcock, Rydal, Philadelphia County, and Mrs. J. Newton Hunsberger, Norristown, Montgomery County.

No nominations being made from the floor, and there being only one nominee for each office, the secretary was authorized to cast the ballot.

There being no further business, the meeting adjourned.

The general meeting was held Wednesday morning at 9:30 at the Athletic Association, with Mrs. J. Newton Hunsberger, president, in the chair and Mrs. Myer Solis-Cohen as secretary.

The meeting was opened with an address of welcome by Mrs. John F. McCullough.

Mrs. George Hoxie, of Kansas City, first vice-president of the National Auxiliary, made the address of the day. She was followed by an inspiring talk from Dr. Harry W. Albertson, of Scranton, retiring president of the State Medical Society, and by Dr. Morris Fishbein, of Chicago, editor of the *Journal of the American Medical Association,* and of *Hygeia,* who also presented the prizes to winners of the *Hygeia* contest.

Greetings were received from Dr. A. C. Morgan, president of the State Medical Society, who was unable to be present. A letter of recommendations, congratulations, and good wishes from Mrs. J. O. McReynolds, president of the National Auxiliary, was read.

Miss Mary Stewart Blair, of Harrisburg, Business Manager of the ATLANTIC MEDICAL JOURNAL, spoke on behalf of the JOURNAL.

The chairman of the Resolutions Committee submitted the following report:

(1) That we extend to Mrs. Allen H. Bunce, of Atlanta, Ga., the honored president-elect of the National Auxiliary, our sincere sympathy and love; and regret that on account of severe illness she is unable to participate in the program of this meeting.

(2) That a rising vote of thanks be given the Allegheny County Auxiliary, especially to their president, Mrs. John F. McCullough, who is also chairman of arrangements, for their hearty welcome, their splendid entertainment, and their untiring efforts to make every minute of our stay among them memorable.

(3) That we extend to Dr. and Mrs. E. B. Heckel our appreciation of their hospitality in welcoming and entertaining us at their beautiful summer home.

CORA W. (MRS. V. J.) GANGEWERE, *Chairman.*

The new officers were installed, and the meeting adjourned.

Due to lack of space, it is necessary to hold reports received from county auxiliaries and other contributions until a later number of the JOURNAL.

Is Compulsory Vaccination Effective?

A news release issued September 30 by the American Association for Medical Progress gives the results of an investigation of the number of cases of smallpox and the deaths therefrom in the various states grouped according to the legal status of compulsory vaccination.

One of the striking conclusions is that for every 100,000 people there are 57 cases of smallpox in the twelve states where vaccination is held to be legal for at least a portion of the population as compared with 614 cases per 100,000 people in the eight states in which compulsory vaccination is in some way restricted. The ratio of deaths from this disease in the first group as compared to the second was as 0.5 to 10.—*Health News.*

County Society Reports

REPORTERS

Adams—James P. Dalbey, M.D., Gettysburg.
Allegheny—Lawrence G. Beinhauer, M.D., Pittsburgh.
Armstrong—Jay B. F. Wyant, M.D., Kittanning.
Beaver—Francis H. McCaskey, M.D., Rochester.
Bedford—Charles C. Cooner, M.D., Bedford.
Berks—Clara S. Keiser, M.D., Reading.
Blair—Charles F. McBurney, M.D., Altoona.
Bradford—Stanley D. Conklin, M.D., Sayre.
Bucks—Anthony F. Myers, M.D., Blooming Glen.
Butler—Ralph W. Walker, M.D., Butler.
Cambria—William B. Templin, M.D., Johnstown.
Carbon—John F. Boyer, M.D., E. Mauch Chunk.
Center—James L. Seibert, M.D., Bellefonte.
Chester—J. Ashbridge Perkins, M.D., Coatesville.
Clarion—Hilton A. Wick, M.D., New Bethlehem.
Clearfield—George D. Fussell, M.D., Clearfield.
Clinton—David W. Thomas, M.D., Lock Haven.
Columbia—Frank R. Clark, M.D., Berwick.
Crawford—Edgar J. Werle, M.D., Meadville.
Cumberland—Richard R. Spahr, M.D., Mechanicsburg.
Dauphin—Guy C. Crist, M.D., Harrisburg.
Delaware—George L. Armitage, Jr., M.D., Chester.
Elk—Samuel G. Logan, M.D., Ridgway.
Erie—Joseph A. Stackhouse, M.D., Erie.
Fayette—Elliott B. Edie, M.D., Connellsville.
Franklin—Ambrose W. Thrush, M.D., Chambersburg.
Greene—William B. Clendenning, M.D., Waynesburg.
Huntingdon—John M. Beck, M.D., Alexandria.
Indiana—Alexander H. Stewart, M.D., Indiana.
Jefferson—William A. Hill, M.D., Reynoldsville.
Juniata—Brady F. Long, M.D., Mifflin.
Lackawanna—James E. O'Toole, M.D., Scranton.
Lancaster—Roland N. Klemmer, M.D., Lancaster.
Lawrence—William A. Womer, M.D., New Castle.
Lebanon—John D. Boger, M.D., Lebanon.
Lehigh—Clark Kistler, M.D., Allentown.
Luzerne—Lewis T. Buckman, M.D., Wilkes-Barre.
Lycoming—Wesley F. Kunkle, M.D., Williamsport.
McKean—Persis Straight Robbins, M.D., Bradford.
Mercer—Edith MacBride, M.D., Sharon.
Mifflin—Joseph S. Brown, M.D., Lewistown.
Monroe—Walter L. Angle, M.D., East Stroudsburg.
Montgomery—Wallace W. Dill, M.D., Norristown.
Montour—John H. Sandel, M.D., Danville.
Northampton—Adolph S. Gabor, M.D., Bethlehem.
Northumberland—Charles H. Swenk, M.D., Sunbury.
Perry—A. R. Johnston, M.D., New Bloomfield.
Philadelphia—Franklin M. Crispin, M.D., Philadelphia.
Potter—Ross H. Jones, M.D., Coudersport.
Schuylkill—Arthur B. Fleming, M.D., Tamaqua.
Snyder—John O. Wagner, M.D., Beaver Springs.
Somerset—H. Clay McKinley, M.D., Meyersdale.
Sullivan—Philip G. Biddle, M.D., Dushore.
Susquehanna—Dever J. Peck, M.D., Susquehanna.
Tioga—Fay X. Field, M.D., Wellsboro.
Union—Weber L. Gerhart, M.D., Lewisburg.
Venango—P. Emery Huth, M.D., Franklin.
Warren—Michael V. Ball, M.D., Warren.
Washington—Clarence A. Crumrine, M.D., Washington.
Wayne—Alfred H. Catterall, M.D., Hawley.
Westmoreland—Clifford C. Baldwin, M.D., Forbes Road.
Wyoming—Herbert L. McKown, M.D., Tunkhannock.
York—Milton H. Cohen, M.D., York.

BERKS—SEPTEMBER-OCTOBER

At its meeting on September 27th the Society was addressed by Dr. Frederick H. Leavitt, of Philadelphia, on "The Modern Conception and Treatment of Mental and Nervous Disorders." Preventive treatment was begun ten years ago, but provisions for the insane are still very inadequate. There is no special place for epileptics in Pennsylvania except one institution at Selinsgrove. The need for the $50,000,000 bond issue is therefore evident.

Recovery after the malarial treatment of paresis is not permanent. Cerebrospinal syphilis is more amenable to this treatment than is paresis, in which there is degeneration of tissue. The malarial treatment of tabes is not so successful.

As a result of encephalitis, unilateral palsies of the eyes may occur. Due to destruction of the mentality and the emotional and moral tone, the child exhibits conduct disorders and becomes incorrigible. No vaccine treatment is effective.

Twenty years ago multiple sclerosis was rare, but now it is far more common. In this disease the spirochete causes degeneration of the brain and spinal cord, while in tabes the cord is principally affected. In the investigation of cranial conditions, encephalography and ventriculography must be used. The diagnosis of brain tumors has been aided by these methods.

Many cases of infantile paralysis result from breech presentations, measles, whooping cough, and faulty digestion, and are found more often in the better residential districts than in the slums. Infantile paralysis is a disease of the nerve roots, and treatment consists of spinal drainage, urotropin, salicylates, catharsis, and rest in bed.

Sterilization of the mentally unfit would result in race betterment, but would open up a big field for malpractice.

At the October meeting an address was delivered by Dr. H. H. Lyle, Associate Professor of Surgery, Cornell University, New York, on "Disabilities of the Shoulder Joint."

Stiff and painful shoulders have been variously described as periarthritis, subdeltoid bursitis, muscular strain of the teres major, birth trauma, brachial neuritis, subluxations of the humerus, sprains of the deltoid, biceps, and internal rotators, etc. In shoulder-joint injuries so many structures are involved that it is often impossible to identify the exact ones injured.

Dr. Lyle stressed the treatment of traumatic shoulder girdles that have resulted in pain, muscular weakness, and limitation of motion. The shoulder joint is full of clinical pitfalls. As a protection the physician should insist upon a careful x-ray study of every traumatic shoulder no matter how slight the trauma. When our ancestors walked on all fours the shoulder was a weight-bearing joint. Since we have assumed the upright position, the shoulder has become a hanging joint which must support the weight of the arm, which in an adult weighs from 10 to 15 pounds. This weight is borne by four muscles: the biceps, triceps, coracobrachialis, and deltoid. The inferior portion of the joint capsule is thin. When the arm hangs by the side, this part of the capsule is thrown into folds. Between these folds adhesions may form.

Trauma of the shoulder, judged by dispensary and insurance records, furnishes a high percentage of disabilities, of which the chief are stiffness and pain. Adhesions are the most frequent cause of these complaints. They result from incorrect treatment of acute bursitis, tendon strain, muscle rupture, fractures, dislocations, etc. It is the joint most commonly incapacitated by adhesions which cause the arm to drag and to become painful, and abduction is restricted. Forward motion of the arm persists after all other motions have disappeared. Disabling adhesions and shortened muscles encountered in stiff and painful shoulders are often the direct result of the abuse of the sling. A painful joint which is rigid in *all* directions is the seat of an arthritis. If the joint is rigid in certain directions, the other movements being normal, the joint is free from arthritis.

Treatment: In many cases, adhesions and muscular shortening are prevented by the intelligent treatment of

acute and subacute lesions. In severe cases, a preliminary treatment of hot applications, massage, radiant heat, etc., is helpful, but not a necessity. Ether is given to insure complete muscular relaxation during manipulative treatment. After the adhesions are overcome, the arm is placed in a position of full correction until the patient is able to make a voluntary movement. Occasionally full movement and freedom from pain follow the rupture of adhesions, but often the muscles are so atrophied that they are incapable of normal work. In such cases the use of weights and pulleys are valuable. With increase in strength and mobility the pain decreases.

Summary: (1) A common cause of shoulder disability is the presence of fibrous adhesions and atrophied muscles. (2) Adhesions and atrophy should be prevented by physiologic treatment of the acute traumatic lesions. (3) If the adhesions have resisted the ordinary therapeutic measures, they should be broken up under ether. (4) Free motion of the joint should be sought, but a complete range should not be tried for at the expense of the contracted muscle. (5) No case should be dismissed from the care of a surgeon until the muscles of the joint have regained their normal bulk and the joint has its full power of motion.

Clara Shetter-Keiser, M.D., Reporter.

LUZERNE—SEPTEMBER-OCTOBER

A regular meeting was held in the Medical Building, September 21st, President Drake in the Chair. Drs. J. T. McAloose, William F. Roth, and Agnes N. Flack were elected to membership.

Drs. S. P. Mengel and J. E. Scheifly talked informally, sketching their impressions of European clinics observed during a tour abroad last summer. They were members of the Interstate Post-Graduate Assembly during its annual foreign visit. Dr. Mengel spoke of the excellent arrangements for transportation, comfort, and entertainment prepared by the tour managers and foreign hosts. The schedule was well filled and followed closely without delay or interruption. Among others there was an address by Gillies on plastic surgery, and papers on gall-bladder diseases and infantile paralysis. The point stressed by an essayist on poliomyelitis was to keep the patient on his abdomen when the back muscles seem involved. In Edinburgh there were clinics by Wilkie, Fraser, and Wade, with numerous side trips for sightseeing.

In Oslo, a number of cases of thoracoplasty done in connection with sanatorium treatment were seen in patients in whom pneumothorax could not be done or had done no good. Considerable work in thoracoplasty was observed in the Scandinavian countries.

It was remarked that the hospitals in London are old. There is no such thing as a private room in the hospitals of England, Scotland, Norway, or Sweden. In these countries private patients are cared for in nursing homes. A hospital position for a physician, which pays the equivalent of $1,200 a year, is considered a good-paying position, and carries with it a mark of distinction. Physicians there dare not do even the most trivial surgery unless they are trained as surgeons, which means five to six years devoted to special work.

Dr. Mengel spoke of the facilities for hydro- and physiotherapeutics. Residents of Copenhagen secure hospital care for 75c a day. In Stockholm, patients from outside the city pay $2.75 a day.

In Stockholm they regard as indications for thoracoplasty, a one-sided tuberculosis in which the good lung must be good enough. A little tuberculosis in the good lung is allowed if not progressive. They consider tuberculous laryngitis and tuberculosis of the intestines, Bright's disease, and heart disease as contraindications.

In Hamburg they consider that in tuberculosis of the kidney, the earlier the operation the more certain the cure. Tuberculosis of the bladder always comes from tuberculosis of the kidney. Tuberculosis of the vas is local, and does not tend to spread up and involve the kidneys.

A regular meeting was held in the Medical Building on October 12th, President G. R. Drake in the chair. Drs. Julian S. Long, Fred C. Tongue, Walter W. Kistler, of Wilkes-Barre, and Drs. Isaac Humphrey and James H. Beckley, of Nanticoke, were elected to membership. Dr. Russell J. Hangen of Ashley was admitted to membership on transfer from the Northumberland County Medical Society.

The essayist of the evening was Dr. Arthur C. Morgan, of Philadelphia, president of the Medical Society of the State of Pennsylvania, speaking on "Cardiac Tragedies."

Dr. S. P. Mengel: Today, as carefully watched by the modern physician, we are in position to diagnose coronary thrombosis. As Dr. Morgan has said, in an early case with these symptoms, with the blood-pressure falling 30 to 40 mm., there is only one thing to account for it—coronary thrombosis. The following days there will be a little elevation of temperature, which is a symptom of degenerative changes in the heart. Nineteen cases have been reported from Boston verified by autopsy, in the majority of which death resulted within a few weeks of onset. I believe any surgeon will admit that an abdomen is sometimes opened when it is not necessary, just as the medical man will admit that an abdomen often should be opened when it is not. We should all be cautious, but should not let an acute abdominal condition get ahead of us.

Dr. Meyers: What impressed me is the importance of team work. I believe, particularly where men have hospital affiliations, that many of these cases should not be operated on when this condition arises. The western men have made progress in their group practice. Where we have hospitals and men treating different types of cases there is a tremendous opportunity for teamwork.

Dr. W. J. Davis: Are there not in these patients of ours very often what we may call "silent signs" which will help to preclude these tragedies? I believe that many of these patients do have symptoms. Only recently two cases which ended tragically showed in their histories that there were clinical manifestations. In their everyday life there were things to make both us and the patients careful.

Dr. Morgan, in closing: The differential diagnosis between acute indigestion and cardiac thrombosis: Acute indigestion is pretty closely related to cause and effect. Tainted food and food allergy are connected with the attack when it comes. Suppose a person takes a certain kind of food that is poisonous to him, cause and effect are related. Sometimes tainted food may be taken, and often then is eaten in a group. Cause and effect are there related. The background is important in acute indigestion. There is more pain, more nausea, and the patient can be made to vomit more readily in food poisoning. The emptying of the stomach is prompt, the cause is removed, the effect is overcome, and he responds to the medication. There is not so much shock and collapse.

In "acute abdomen," with perhaps the exception of acute hemorrhagic pancreatitis and mesenteric throm-

bosis, there is not so much shock as in coronary thrombosis. Gall-bladder disease and peptic ulcers do not rupture so suddenly. In all these other cases, peritonitis is the sequel, but not in coronary thrombosis.

Acute indigestion does not result in death. If a patient dies from symptoms of "acute indigestion," look for something beyond it. The dose of atropin is determined by the color of the hair; brunettes bear atropin better. Give enough digitalis. If the patient is in dire need, he should have a stiff dose. Give 30 drops at once hypodermically, and repeat in half an hour.

The background that leads up to these tragedies is another matter on which a week could be spent. These people buy their medicine over the drug counter and will not go to the doctor, and if they do consult a physician he may have a cold streak and hesitate to tell the patient. Let the doctor be sure, and then tell the truth. He will have the moral satisfaction of knowing that he delivered his message, and the end is on the patient's own head.

Lewis T. Buckman, M.D., *Reporter.*

LYCOMING—OCTOBER

The Lycoming County Medical Society had for its guest at the annual Fall Clinic Day Meeting, held on October 14th, Dr. Martin E. Rehfuss, assistant professor of medicine, Jefferson Medical College, Philadelphia.

The morning session, held at the Williamsport Hospital, consisted of a clinic on gastro-intestinal diseases. Dr. Rehfuss presented in a most interesting manner his plan of treatment in these conditions.

At noon, eighty-five members of the society assembled at the Park Hotel for luncheon, and this was followed by the formal meeting.

Dr. Rehfuss' subject was "The Medical Treatment of Gall Bladder Disease," which paper will be published later in the Journal.

W. E. Delaney, Jr., M.D., Reporter.

PHILADELPHIA

September 28, 1927

The president, Dr. Frederick S. Baldi, in the chair.

Dr. Hugh H. Young, Johns Hopkins Hospital, Baltimore, Md.: Sterilization of Local and General Infections by Intravenous Injection of Mercurochrome.—Since Philadelphia has been foremost in the utilization of germicides and drugs for combating infection, the presentation of this paper is in the nature of carrying coals to Newcastle. Valuable experimental work has been done here by Schamberg, Kolmer, Piper, Hirst, Stengel, and others. The speaker's work was stimulated by a paper presented in London in 1913 by Erlich, who had been working along the line of chemotherapeutic possibilities some eight to ten years previously, and who already had effected sterilization of disease with "606" and predicted similar successful treatment of many other diseases.

The first step necessary in the work was the search for an expert in dye chemistry, and Dr. E. J. White was brought to Baltimore. He began first on phenolsulphonephthalein, trying to combine it so as to form a product for use in urinary antisepsis, but though he succeeded in making several syntheses beneficial in work on dogs, they were not good in humans. Then began the systematic work on dyestuffs, and 265 compounds were made and studied. The war came along at that time, providing a chance to observe the work of Browning, of London, with acriflavin, and in Paris, at the Pasteur Institute, the sterilizing effects of salvarsan upon gonorrheal epididymitis and arthritis when given to patients suffering from syphilis; also the tremendous effect of intravenous injection of the sulphate of copper in streptococcic septicemia.

After the war, study was resumed, the desideratum being a substance that was stable, nontoxic, nonirritating, not brought down by serum, blood, bile, or urine, usable intravenously, and with high potency in the strength in which it could be used. In mercurochrome such a substance was found, being, in a one- to five-per-cent solution, nonirritating to mucous membranes, suitable for intravenous medication in doses up to five milligrams per kilogram of body weight, and germicidal in body fluids. In aqueous solution, a 1 : 1,000 dilution is germicidal to pyogenic organisms in one minute, but it is not quite so potent in serum. It is a strong dye and penetrating, passing through the bladder mucosa to the musculature, through the kidney tubules to the subcapsular tissue, and deep into the glands and ducts of the skin. It was used effectively in the treatment of genito-urinary mucous membranes and of wounds, and after the first publication in 1909 it was widely adopted. Piper recognized its value in puerperal septicemias, and after proving the claims of nontoxicity, tried for the first time the sterilization of the blood in a series of practically moribund women with results indefinite, probably because of the desperate condition of the patients.

Slides were shown demonstrating that the therapeutic factor of mercurochrome against staphylococci, B. coli communis, and the gonococcus is greater than that of most drugs. In a case of colon-bacillus septicemia (a man suffering with double pyelonephritis, who was nearly moribund, with 140 colon bacilli per c.c. of blood), following administration of 34 c.c. of one-per-cent mercurochrome, the temperature dropped in six hours from 104° to 97°, the blood was sterile in twelve hours, and recovery followed. A similar result was obtained in a case having bilateral chronic pyelonephritis (B. lactis aërogenes), sterile blood and rapid recovery following a 5-mgm.-per-kgm. dose. Another man operated upon suffered bladder injury following sounding and developed chills and fever. A mass in his left abdomen was diagnosed retroperitoneal abscess, but he recovered without operation after injection of 28 c.c. of a one-per-cent solution, the temperature dropping from 106° to 99° in four hours.

In a study of the elimination of mercurochrome in man, it was found in the stools in a strength of 1 : 10,000 from the fourth to the thirteenth hour after injection; in the urine, in 1 : 50,000 the first hour, 1 : 25,000 the second hour, and 1 : 10,000 up to the sixth hour; in the vomitus for the first three hours in 1 : 100,000 dilution.

In a series of 173 cases of septicemias of all types, of 16 cases of genito-urinary origin, 72.7 per cent were cured; of 8 traumatic cases, 67.7 per cent were cured; of 6 traceable to the throat, 75 per cent were cured; of 11 originating in ears and sinuses, 78.6 per cent were cured; of 7 osteomyelitic cases, 70 per cent were cured; of 41 puerperal cases, 62 per cent were cured; of 4 endocarditic cases, 22 per cent were cured. Of the total cases studied, 68.2 per cent survived.

In Atlanta, Georgia, bronchopneumonia is very fatal, and Freeman and Hoppe, working there, treated two series of cases with mercurochrome—in one group reducing the mortality from 36 per cent to 8.5 per cent, and in the other from 32.5 per cent to 8 per cent.

Of 18 patients with gonorrheal rheumatism, 14 showed good results; of 23 prostatic abscesses, 18 were

cured or improved; of 8 cases of epididymitis, 4 were cured; of 3 cases of lymphangitis, all were cured.

The urinary findings in a summary of 611 cases of all types and conditions of infections treated by injections of mercurochrome were: improved in 61, unchanged in 419. transitory albumin and casts shown in 19, and persistent albumin and casts in 11, all of whom, however, had them previous to the treatment. Thus it would seem proved that mercurochrome does not produce a persistent nephritis, nor are these few transitory findings unusual with other drugs also, and after blood transfusion.

Certain skin infections are cured by this therapy, a case of erysipelas reacting with a temperature drop of 8° and cure, and a case of furunculosis (Staphylococcus aureus) with cystitis experiencing a marked reaction with stomatitis, but with disappearance of the boils in one week and no recurrence. Carbuncles have been repeatedly cured, even in some diabetics, and cellulitis following hemolytic infection of the leg was cured after two injections, though antistreptococcic serum had produced no effect.

Mercurochrome is a good antisyphilitic remedy, experiments in rabbit syphilis showing that, given immediately, they were sterile in one injection; given in the incubation period, like results followed; given after the appearance of the lesion they were made negative after multiple injections.

Over a thousand cases treated by intravenous mercurochrome are on record, with the results given above confirmed from many eminent sources. Unsatisfactory and hostile reports have come as well, some definitely unfounded. There remains to be considered the possibility of combinations of serum, blood transfusion, and other antiseptics. In the 28 per cent of failures which occur in all types, the blood is often made inhibitive, but not antiseptic. Does the drug, by killing organisms and producing dead bodies, create a cellular, immunizing reaction like that of foreign protein? In 1913 Erlich hoped through chemotherapy to obtain a specific disinfection of tissues. We are at the beginning of the whole subject, and many other drugs may present themselves. However, this drug, mercurochrome, is not dangerous, especially in small, repeated dosage. We do not know its action; we do not know what happens, but we do know that in the past four years in over one thousand cases something has happened, and that thing usually good.

In Discussion: Dr. Jay F. Schamberg praised the work of Dr. Young as a stupendous piece of both clinical and laboratory research, verified by many observers treating many infections. While the mode of action of the drug is not understood, it is probable that most of its effect is secured from the production of a foreign-protein reaction. Especially is this true in psoriasis. Nor could one expect that any given chemical agent should have affinity for so many organisms. Neoarsphenamin shows a distinct affinity for spirochetes and trypanosomes. In skin work, one case of extensive pemphigus, that disease which is usually 100 per cent fatal, disappeared after the first injection of mercurochrome, but there was a relapse after a few weeks and further administration of the dye was unavailing. Another case of incipient pemphigus was completely cured after one or two injections. A case of chronic erosive stomatitis, a forerunner of pemphigus, cleared up on small intravenous doses but relapsed a year later while the patient was abroad. Mercurochrome is of value in certain cases of furunculosis. Certainly it is a signal contribution to the chemotherapy of certain infectious processes.

Dr. John A. Kolmer added his tribute to Dr. Young's paper since it represents exceptional experiments in the chemotherapy of several bacterial infections. We need improvement in the treatment of septicemias, and he endorsed the use of mercurochrome in the treatment of staphylococcic and streptococcic septicemias, for though it is not on a par with arsenic in the treatment of spirochetal disease, it is a distinct advance in the treatment of these infections. The primary principle of surgical drainage must not, however, be overlooked, and blood transfusion should be employed also, neglecting no possibility that might contribute to the patient's recovery. Mercurochrome alone is not sufficient unless local points of infection are found and drainage instituted, though it does remove the bacteremia, at least temporarily, and thereby improves the patient's chances for recovery.

In streptococcic septicemias he first uses antistreptococcic serum for 48 hours; then, if it fails, mercurochrome, though this, too, is dangerous, because success in the use of these compounds depends on their early administration. He has no faith in gentian violet or acriflavin. Mercurophen and metaphen are nearly as good as mercurochrome, nor do they produce a violent reaction. In his experience, treatment of bacterial endocarditis is disappointing, and prognoses must be doubtful, the best bet being repeated antistreptococcic serum, though with mercurochrome a temporary sterilization of the blood is obtained. He prefers antistreptococcic serum in puerperal sepsis, and while he has had no experience with mercurochrome in pneumonia, finding Huntoon's antibody solution beneficial, he was impressed by the report. He has had no encouraging results in streptococcic or pneumococcic meningitis. In experimental infections the dye has given favorable results in streptococcic, staphylococcic, and B. coli infections.

The toxicity of mercurochrome has never given him concern, and he was glad Dr. Young stressed this. In several cases there have been stomatitis and enteritis, but kidney lesions in none, though, since mercury is renotoxic, in cases with evidence of kidney degeneration, it should be given with extra caution (25 to 30 c.c. per 100 pounds). Failures have occurred and some "cures" might have survived without it, but, allowing for errors, mercurochrome offers a real advance in methods of treating bacterial infections, even though we are in total ignorance of the mechanism of its chemical activity. It is not new—the heavy metals have long been used—and benefits are probably obtained from a disturbance in the colloidal constitution of cell plasma.

Dr. Piper was gratified to find his work ratified by Dr. Young. He began his work on puerperal sepsis, and while the percentage of recoveries from mercurochrome alone were small, from any other medication they were smaller. Later he tried it in other conditions and was rewarded by the first staphylococcic septicemia that ever recovered.

Dr. Grant, using mercurochrome for staphylococcic meningitis, tried spinal-canal injection, but so much pus was present that this was impossible. An intravenous injection was therefore made and in 24 hours the dye came out of a low lumbar puncture, and the patient recovered. A child with severe erysipelas, given a very large dose by error, recovered, and two cases of pyelitis got well.

Does mercurochrome create an autogenous vaccine? A foreign protein? He does not think so, for good results are not obtained when there is no reaction. However, 20 c.c. given in a case of bacteremia pro-

duced a reaction, while 30 c.c. in a case with negative blood culture produced no reaction. How explain this?

In experimentation done in 1920 it was found that the prophylactic action of the dye in rabbits is constant; given mercurochrome at the time of inoculation they never failed to get well, hence the logic of its use in sapremias. He agrees with Dr. Kolmer in advising mixed treatment, and he has used medicated blood. He believes that the drug is dangerous when promiscuously used, and has seen three deaths from it: the first, when anuria resulted from too large a dose in a case of puerperal septicemia; the second, after too many doses, with resultant anuria and death; the third, in the case of a bad kidney. He does not believe in massive doses, preferring 2 to 3 milligrams per kilogram of body weight.

Dr. Joseph Sailer believes there is an advantage to be had from the use of mercurochrome in the treatment of sepsis. After the enormous experience with pneumonia during the War when the mortality was reduced from 30 to 10 per cent through the use of the antibody serum, he was convinced that the serum was only one of many factors. At the Philadelphia General Hospital, therefore, the pneumonia service was divided into three groups, Dr. Solomon Solis-Cohen using quinin, Dr. David Riesman using antibody solution, and Dr. Sailer, mercurochrome. Rules were laid down in the third group that no patient was to be so treated who had had active pneumonia more than three days, that no patient should have the dye who did not have a positive blood culture (rule later abandoned because of time involved), and that none should be given it who had active nephritis (though it was later believed that no damage ensued to the kidneys). The results were disappointing, though the mortality became satisfactory, dropping from 60 to 20 per cent in the mercurochrome cases. Dr. Sailer attributed this in part to the Volstead Act.

He first used 20 c.c. of one-per-cent solution per 100 pounds, and though a severe reaction was usual, he had no permanent bad results, nor were there sudden crises. Variations in the preparation of the drug must be considered. Seldom was more than one injection necessary, and recovery was usually by lysis. Only one empyema developed subsequently. Gingivitis occurred occasionally. In the last few years he has favored smaller doses—10 c.c. per 100 pounds—repeated after two days.

One case of acute polyarthritis was cured with the dye; another received no benefit. A case of acute endocarditis with chills, murmur, and Streptococcus hemolyticus in the blood gradually recovered after three small doses of mercurochrome, but six months later showed pronounced aortic insufficiency with permanent decompensation. Another patient, in the Philadelphia Hospital, had S. hemolyticus in the blood and, during a delay before the proposed injection of mercurochrome, the temperature returned to normal and the blood culture became negative. Cases must be selected with care. He has had no success with Streptococcus viridans. He is not able to say definitely that the drug reduced the mortality in pneumonia, but it is safe, and it may be that through its use the mortality is less than before.

October 12, 1927

The president, Dr. F. S. Baldi, in the chair.

Symposium on the Early Signs and Symptoms of Cancer

Dr. Jay F. Schamberg: The Skin.—To prevent or to detect cancer in its incipiency one must know the antecedent conditions that degenerate into malignancy—keratoses, pigmented or nonpigmented moles, scars, lupus—as well as bear in mind that cancer may arise from apparently healthy skin. The keratoses (which must be differentiated from the true warts, in which is found a filtrable virus, and which never give rise to cancer) are found most frequently upon the face and back of senile persons, and usually present rolled, pearly borders or ulceration, indurated, with everted, undermined edges, discharging less freely than do the ulcers of lues. They occur in chronic x-ray burns of the skin and in arsenism. Moles, or nevi, have a direct hereditary influence, and vary in color, depth, and size, the bluish-black ones being more dangerous than the brown. When they are found to be growing, or when they are located so as to be subject to trauma, they should be removed, preferably by excision or electric destruction, by which methods there is no danger. Circumscribed pigmentary patches, especially occurring on the toes, should be viewed with apprehension, and should be excised. Scars and lupus vulgaris have low resistance and often break down, and the black, horny plugs that occur in workers with tar, and the benign cystic epitheliomas, too, may ulcerate and give rise to destruction. Cutaneous carcinosis (pearly nodules in subjects with a hard, dry skin) occurs, and occasionally we have deep nodules which, since they spread without visible skin lesion, are most dangerous.

Less than 5 per cent of skin cancer should prove fatal, for there is seldom metastasis, though cancer of the eyelid, lip, or mouth is very malignant, and demands vigorous treatment. The squamous-cell is worse than the basal-cell type. Bowen's disease, in which there are circumscribed patches or crusted red papules, oftenest on the trunk, may result in cancer.

Possibly, repeated exposure to sunlight may be a factor in the production of skin cancer, since it is found more often in farmers and sailors than in others, more in rural than urban districts, more in males than in females, and rarely in the colored, who are protected by pigment.

Dr. Robert H. Ivy: The Mouth.—Cancer of the mouth occurs ten times as often in men as in women, and usually starts in the surface mucous membrane of the lips, gums, or tongue, occasionally in the maxillary sinus, or in epithelial cell rests of dental origin in the jaw bone. It should be easily recognized early, and the campaign for control is bearing fruit, for it is often hard to convince the patient that a lesion is simply an inflammation, though this overanxiety is counterbalanced by the benefits.

Precancerous lesions in the mouth are leukoplakia, fissures of the lip, injuries from teeth or dentures, benign warts, etc. The lesions in leukoplakia are white patches on the mucous membrane, resembling white enamel paint, harder and more leathery than the surrounding mucous membrane, found anywhere in the mouth, and showing a tendency to crack into painful fissures, though they may remain stationary. Sometimes nonpathologic sebaceous collections which appear as yellowish-brown masses below the surface are confused with leukoplakia. Lichen planus of the mouth, too, must be differentiated.

Any active treatment does more harm than good, but tobacco should be prohibited, irritants removed, an alkaline mouth wash advised, and observation maintained at three-month intervals. If the lesion progresses, it should be removed by excision or cautery, never by x-ray or caustics, which may stimulate it to cancerous degeneration. Rarely does cancer in the mouth recede, but is usually progressive, with induration slowly ex-

tending without evident cause and without improvement in the ulcer. Warty growths, fissures, benign papillomas, must be viewed with suspicion, and differentiated from chancre, tuberculosis, gumma, though cancer may develop upon a syphilitic lesion.

Dr. John B. Deaver: The Breast.—At the Lankenau Hospital there is the impression that more carcinomas of the breast with a short history are coming in than formerly, but nearly all of these show involvement of the axillary lymph nodes. We may consider as early cases those seen within two or three months after noticing a lump in the breast. Cancer in its early stages is curable, but it is so insidious that it is rarely observed in the beginning. For the safety of the patient and to advance study of this disease we must correlate the pathology with the symptoms, for the type of growth determines the prognosis, the duration of the disease being not of great moment. Some tumors of low-grade malignancy may have had long duration, and yet be curable, and vice versa. The aim in treatment is to prolong life with comfort.

Two series of cases were studied in preparing this paper: the first, fifty cases with a short history, seen one to twelve weeks after the lump was first noticed; the second, fifty cases with a long history before treatment. The first group ranged from 40 to 58 years, and thirty-six died from four months to six years after operation. With ten exceptions, all metastasized. Two have been lost from observation, but of the twelve who are known and living, two have metastases. Of the ten without metastasis, five had a radical operation, three a simple removal, and two mere excision of the growth. A number who showed tumor embolism are still alive, one woman, aged 36, being living and well 62 months after operation. The second series comprised cases seen from six months to twenty-one years after the first sign, the ages ranging from 28 to 78 years. Twenty-nine are dead from recurrence or metastasis, twenty-one are living, nineteen with no evidence of a return, two with recurrence twenty-two and twenty-nine months postoperative. One has survived seventy-two months—an intraductal, papillary type. One scirrhous carcinoma has had no recurrence after eighteen months (excision of tumor followed by three x-ray treatments).

Dr. Chevalier Jackson: The Esophagus.—Before curing carcinoma of the esophagus it must be diagnosed. How can this be done? We have in this disease one that is relatively benign, slowly developing, slowly metastasizing, one ideal for cure, except for the difficulty of surgical accessibility. X-ray treatment, given early, has proved palliative, the life of one patient having been prolonged five years. There are two methods of diagnosis—the roentgen ray and the esophagoscope. By the x-ray we can detect an infiltrated process in the esophagus, and we can rule out aneurysm. All cases sent in for carcinoma of the esophagus have first been diagnosed spasm, neurosis, or globus hystericus, and when the patient has gone so far as to be unable to swallow solid food, it is too late. By use of the esophagoscope, the fungating, ulcerating, bleeding growth can be seen, and a section can be removed for biopsy, making the diagnosis sure before a possibly fatal operation is done. Globus hystericus is more frequently cancer than hysteria, and a diagnosis of cardiospasm and spasm should never be made until cancer has been ruled out by the esophagoscope. All impairments of swallowing should be given the advantage of x-ray study. If the diagnosis is made early, the disease can be cured.

Dr. George P. Muller: Stomach.—Cancer of the stomach is the most common clinical type of cancer, comprising a third of the carcinomas in men and a fifth in women, but whether it is increasing in frequency or whether the increased number of cases reported is due to a greater population, prolonged life, and better diagnosis, is a question. The etiologic factors are those which predispose to gastric ulcer, especially carious teeth. It may be that cancer originates in ulcer, but certainly a carcinomatous ulcer is a cancer, and the clinical evidence and the x-ray findings cannot determine positive or negative malignancy.

The symptoms are pain, gastric indigestion, loss of appetite, loss of weight, anemia, and asthenia. Complete studies of these cases should be made, with x-ray, Wassermann, blood count, gastric analysis, stool examination, and complete social history. Differentiation must be made from syphilis, pernicious anemia, indigestion, gall-bladder disease, and, though it is rarely confused, benign tumor or pancreatic disease. Though it is most often found in the middle-aged male, we must not forget that it attacks younger men, and women. With a case of gastric indigestion thus studied, the patient is given a square deal. A majority of cases are not suspected until there is vomiting, tumor, or hemorrhage, and it is impossible to differentiate ulcer and cancer. Hence every ulcer should be considered cancer, and medical treatment of a known ulcer is folly. An ulcer shown small by the x-ray, and with normal or plus gastric acidity, is favorable.

Before operation, the patient should be given chlorid replacement, blood transfusion, and gastric lavage. Whether simple resection, gastro-enterostomy, or merely closure of the abdomen is done, depends upon the extent of involvement, the amount of obstruction, and the condition of the lymphatics. Ten per cent of cases in which resection was possible are living and well after five years. Do not temporize with diets in ulcer. When the cause of cancer is discovered, a better method of diagnosis will be evolved.

Dr. H. L. Bockus: The Bowel.—Cancer of the colon, of all the alimentary cancers, is situated most favorably for cure, for the disease remains local, with perforation or peritonitis. In about half the cases there is no glandular enlargement. The sigmoid flexure is the most frequent site, and the growth is usually adenocarcinoma. The clinical phenomena differ with the situation and the type of growth. Symptoms occur late, and the early signs—constipation, diarrhea, flatulence, colic—are associated in the layman's mind with benign lesions. Too often they are given palliative treatment, or fall into the hands of untrained therapists. The lay public must be educated to know the early manifestations, as must the regular practitioner, and annual health examinations must be urged. Operation should be performed unless there are definite contraindications.

A provisional diagnosis should be written before laboratory examinations are made, and a negative past digestive history is of positive value, a short history of a progressive complaint being characteristic. The early symptoms are a gradual, progressive constipation, persisting; alternate diarrhea and constipation; irregular bowel action; gas colic; discomfort rather than pain; pain before the bowel movement, below the umbilicus. Forty per cent of cases are diagnosed by obstruction, and there is a nine-to-one chance of malignancy, and six to one it is on the left side. Blood and pus from the rectum, anemia, and loss of weight, are a common clinical syndrome. If the growth is in the cecum or ascending colon, we find a mass and

anemia, rarely pain. In this event, appendiceal abscess, tuberculosis, syphilis, and fecal mass must be differentiated. A digital examination, with the patient squatting and straining, will disclose enlarged glands.

The x-ray is the most valuable diagnostic aid in cancer of the colon, especially the fluoroscopic examination with a barium enema. In Vienna they are using injection of air after the barium enema to differentiate tuberculosis and malignant involvement of the cecum. If in doubt, the study should be repeated after administration of an antispasmodic. A proctosigmoidoscopic examination should be made in all patients with bowel symptoms, thereby seeing ten inches of the colon and easily differentiating cancer, ulcerative colitis, and amebic colitis. There is no danger in this procedure if properly done. Blood count, Wassermann, and stool examination should be done. Possibly diverticulitis, polyposis, and ulcerative colitis predispose to cancer, but the overwhelming majority of cases come without warning, with no antecedent disease of that organ.

Dr. Collier F. Martin: The Rectum.—Since the rectum and large bowel have no sensory innervation, and painful sensations arise only from disturbance of the sympathetic nerves, we get a characteristic lack of consecutive clearness in the history of these cases—"piles," usually, and pain, bleeding, and discharge. After a few months of indefinite symptoms, an advanced case is found; never is an early case seen. In many there has been no preceding growth. We find as symptoms of carcinoma of the rectum bleeding, discharge, tenesmus, cachexia, diarrhea, incontinence, loss of weight and strength, and it may begin as a nonmalignant neoplasm or as the result of a chronic inflammatory process. Bleeding from neoplasms and ulcerative colitis is mixed with the feces or found on the surface, while in hemorrhoids there is bright red blood after the stool, and it may be absent for a long time. Sudden obstinate constipation in a patient with patulous anus calls for careful examination, and it must be remembered that syphilis and malignancy may coexist. A rectal carcinoma may develop in the scar of an old fistula, and all patients with lesions of the mucous membrane should be examined long after cure. Symptoms are insignificant. For examination of the lower bowel we should employ palpation by finger, sigmoidoscopy, biopsy, the Wassermann, and the x-ray. Malignancy calls for the most radical operation consistent with the findings, never palliation.

Dr. B. A. Thomas: The Bladder.—Carcinoma of the bladder is comparable to carcinoma elsewhere, but since it gives early symptoms and is accessible for treatment it should receive early investigation, and by reason of its slow growth, its accessibility, its delayed metastasis, it should have a better prognosis than cancer elsewhere. If the precancerous conditions (papillomas, polyps, cysts, etc.) are treated, it is cured. The majority of bladder cancers were originally benign, months or years before. There is a lack of appreciation on the part of the family doctor of slight symptoms and transient hematuria, and his inaction leads to hopeless patients. True, carcinoma of the bladder in many instances is curable if treated early, the mode of treatment being determined by the diagnostic revelations. While papilloma is curable by cystoscopic fulguration, no cancer should be so treated, nor should there be resection without ureteral transplantation. Cystotomy, fulguration, electrocoagulation, radium—seldom are these more than palliative.

The term "malignant papilloma" should be, instead, "papillary carcinoma." To make a correct diagnosis at the earliest possible moment, there should be routine periodic urinalyses, and a competent urologic examination should be made upon any inexplicable disturbance. Procrastination in any undetermined hematuria should be avoided, and the public should be educated on urologic matters. Much is to be expected of the future, since over 90 per cent can be differentiated from benign lesions, and treatment can be instituted. Though cystoscopic biopsy has some advantages, it is best to avoid cutting into cancerous growth if possible, and the histopathologic differentiation between a benign and a malignant papilloma is difficult. Cystography and aërocystography should be done. The classification of carcinoma is an important advance for prognosis and treatment, nor should we wait for treatment until there is macroscopic blood. The public should be educated on the importance of hematuria, by both lectures and personal contact.

Dr. Floyd E. Keene: The Uterus.—Between the ages of 45 and 55 years, one in five women die of carcinoma, the uterus and breast being most commonly involved. Since cancer of the uterus is accessible to examination, it should be early discovered, but less than five per cent of clinic patients come in the early stage. Procrastination is due to fear, ignorance, false pride on the part of the patient, to the symptomless nature of the malignant process, to errors of commission or omission (no vaginal examination) on the part of the physician. Propaganda must be put forth educating women as to the significance of certain menstrual disorders, and with no uncertain diagnosis, it should be cured before it develops, thereby eradicating precancerous lesions—a lacerated and eroded cervix, for instance. Carcinoma of the uterus is a vascular tumor, with necrosis, sloughs, hemorrhage, discharge (not malodorous until late), and painless. Subjectively, there is abnormal vaginal bleeding with bloody discharge in the interval between periods, or there is recurrence after the menopausal amenorrhea. Profuse bleeding at the time of the period, but not between, is characteristic of a benign neoplasm. Vaginal bleeding after the menopause demands most thorough examination, and examination should be made at the time of the bleeding. Gentle trauma produces bright red blood and there should always be a curettage and microscopic examination of the curettings in all cases, the dissemination of cancer cells being over-feared. While definite diagnosis is difficult early, the lesion should be excised and examined microscopically.

Mary A. Hipple, M.D., *Reporter.*

UNION—OCTOBER

The quarterly meeting of the Society was held at the Cameron House, Lewisburg, on Thursday, October 20, at 1 p. m. All members save four were present. There were also with us Drs. Faries and Swengle, who recently moved to our county and who will soon become members by transfer.

Dr. Arthur C. Morgan, president-elect of the State Society, was present and spoke to us in his delightful and pleasing manner, taking as a subject, "The Inferiority Complex of the Doctor in the Country." His treatment of that sad malady was a vigorous application of corporal stimulus, which, if applied to the proper location, would bring surprising results.

Dr. Harley, of Williamsport, demonstrated the use of the cystoscope, and showed a number of illustrative films.

Dr. Thomas, fourth vice-president, Dr. Campbell, Dr. Delaney, and Dr. Brenholtz, of Williamsport, all aided in making this meeting the most interesting and successful ever held in the county.

Charles H. Dimm, M.D., *Reporter.*

CORRELATING DENTISTRY WITH MEDICINE

Dentistry is a necessary and integral part of the healing art, and that vast field includes much more than the mere cleaning, filling, and extraction of teeth, more than replacing by prosthesis those masticatory and esthetic organs so necessary to good health and its maintenance.

We all agree in part, at least, with Dr. Charles Mayo, when he said: "The next great advance in the prevention of disease is the knowledge that chronic diseases, acute diseases, and special local diseases such as neuritis, sciatica, and acute paralysis come from mouth infections in most instances; also that appendicitis, diseases of the gall bladder, and ulcerated stomach are caused by bacterial infarcts in the capillary circulation at the base of the mucous cells in these organs, and is caused in the same manner from local infections. While there are several sources in the body for the entrance and growth of these bacteria, in a local focus the mouth is far the most common situation."

No reputable medical doctor should honestly undertake to relieve or cure a patient suffering from some form of systemic trouble without first ascertaining the condition of the mouth and teeth; having some reputable conscientious dentist, who is well informed from the medical side, to correct and clean up the mouth of his patient, thereby eliminating any possible trouble from this source.

There is no malady of the human race which affects quite so many people as defective teeth and gums. Because of the prevalence of dental caries and diseased gums, dental troubles have aptly been termed "the people's disease." The entire body is affected, the influence being chiefly of four kinds: (1) Decreased power of mastication or chewing, due either to decay or irregularities of the teeth. (2) The toxic effect of pus which is absorbed directly into the blood or is taken into the stomach and intestines. (3) Reflex nervous disturbances due to pain, impaction of teeth, cysts, infection, etc. (4) The possibility of acting as a breeding point for the bacteria which are well known to cause acute infectious diseases.

Dentistry can help medicine by cleansing and conserving every possible tooth for its maximum life and efficiency.

No radiograph gives an infallible, positive diagnosis, yet because the doctor of medicine and the doctor of dental surgery fail to get together, many patients are forced to undergo a tardy restoration to health, forced to remain in a quandary, doubting both medicine and dentistry, their efficacy and necessity, or usually needlessly having sound, serviceable teeth ruthlessly sacrificed. Many teeth are condemned on the evidence of a one-angled, imperfect radiograph, and this alone. Many of these teeth are healthy, useful teeth.

Dentistry can aid medicine in teaching the laity regarding the proper, necessary, and essential diet which will build and maintain good healthy bones and teeth, thereby materially inhibiting rickets, defective teeth, and their allied sequelæ. Dentistry can aid pediatrics in numerous ways: by caring for the deciduous teeth, aligning on-coming permanent teeth, maintaining a normal arch, and preventing malformations of the jaws and head.

The rhinologist and dentist often find their work so close together it overlaps. Many times, diseases of the sinus, eyes, ears, and throat have a not-to-be-denied primary predisposition for trouble in the mouth. Many cures and alleviations are rendered in the field of rhinology, through a strict dental correction. Neurology, with its many and diverse problems, is turning to dentistry as never before.

There should be a close affiliation between the obstetrician and the dentist. Many pregnant women undergo tortures from aching, sore teeth during pregnancy because they fear the consequences of extraction or treatment. It is now a well-established fact in medicine as well as dentistry that this fear and pain is needless and without foundation. A pregnant woman should consult her dentist just about as soon as she consults her obstetrician, for tooth formation begins fifty days after conception, and any woman who does not consume a diet essentially balanced in those necessary bone- and tooth-building substances, principally calcium and phosphorus, always has a materially impaired mouth thereafter. Nature goes to the most fruitful source for calcium and phosphorus if it is not supplied in the normal diet, for the new life must be supplied; therefore, without the proper dental attention and diet, the pregnant woman's teeth and bones are usually irreparably damaged, and the child begins life as a dental cripple and a bone-deficiency cripple because of this neglect upon the part of the mother.

The public-health man and the general practitioner know well that they are greatly benefited and helped in their endeavors to obtain and maintain good health in children in the preschool and school age by the part dentistry plays. Those children with healthy, well-kept mouths more often miss the common infectious and epidemic diseases so generally contracted in this important period of a child's growth and development. Children with a clean mouth maintain a far better systemic immunity; they are more vigorous, attentive, and prompt at school and in play.

That vast field of surgery which considers more especially the mouth, jaws, and even the face has in a good part been relegated to the dentist in the field of oral surgery.

Those wretched infections of the mouth are, of course, best treated by the dentist. The early forms of stomatitis in children, thrush, cancrum oris, noma, phagedenic gingivitis, herpes labialis, perléche, as well as scurvy, mineral poisons such as mercurial, phosphorus, etc., foot-and-mouth disease, scleroma, Vincent's stomatitis, Ludwig's angina, adenitis, cellulitis in adults—in all these diseases, more often first seen by the doctor of medicine than the dentist, the dentist's work should supplement that of the medical men.

Dentistry is a most important branch of medicine; it becomes the duty of the dentist to be thoroughly versed and competent, and willing to advise in the care of the mouth as soon as the child is born, and he should not hold the erroneous idea that his duty to the community begins only when the child is first brought to him with carious teeth, apical abscesses, etc. The family dentist should share with the family physician responsibility for the child's health; nor is the physician doing his full duty to either parent or child unless he takes pains to impress this fact upon the parent.—Walter T. McFall, *Southern Medicine and Surgery,* August, 1927.

THE

MEDICAL SOCIETY OF DELAWARE

FACTORS OF SUCCESS IN THE PRACTICE OF MEDICINE*

HAROLD L. SPRINGER, M.D.
WILMINGTON, DEL.

First I wish to express my appreciation of the honor conferred in electing me president of this ancient and honorable Society, the pride that I have felt in being its 138th presiding officer, and the pleasure it gives me to have had this opportunity.

Success is more or less of an individual matter, and one is very apt to base his opinions on his own experience. Some one has said: " 'Tis no idle challenge which we physicians throw out to the world when we claim that our mission is of the highest and of the noblest kind, not alone in curing disease, but in educating the people in the laws of health, and in preventing the spread of plagues and pestilences; nor can it be gainsaid that of late years our record as a body has been more encouraging in its practical results than those of the other learned professions. Not that we have lived up to the highest ideals—far from it—we are only men. But we have ideals, which means much, and they are realizable, which means more. Of course, there are some Gehazis among us who serve for shekels, whose ears hear only the lowing of the oxen and the jingling of the guineas, but these are exceptions; the rank and file labor earnestly for good, and self-sacrificing devotion to public interests animates our best efforts."

The doctor of today should be a scientific idealist, which means a mixture of many characteristics, and implies a great many things. The question of the science and art of medicine, with their mixture of education, training, experience, and common sense, of course plays an important part, and must be discussed. An address of this sort naturally is divided into two parts, namely:

(1) What is success?

(2) How can one attain success?

At the outset I can safely say there is no set formula, and any person who has had wide contact with successful people will say the same. So many people who talk of success are merely giving advice and encouragement to those who have failed to attain the goal. If such a set method existed, every one would be successful; and we know how many are successful in spite of their apparent failure to observe this usual rule, also how many who seem to be qualified in every way to attain a high pinnacle never get farther than the first step! No man can say to himself, especially a doctor, I will do as that man did and I shall surely succeed. On the other hand, no man need think himself a failure because he did not follow the same rules. There is, however, a certain technic, so to speak, that may be followed, and there are certain things that are necessary to be taken into consideration if any real attempt to succeed is made.

Is success in the practice of medicine to be based upon the same general rules as those in business? Financial for instance? Certainly not! It is a false standard of life which looks upon the accumulation of wealth as the chief aim of existence, and any man who has never known the joy of service and living up to an ideal is to be pitied. He has missed the main joy of life. It is far better to remain true to these ideals and retain the self-respect that a real physician must have and that is not measured in dollars and cents. Having money is essential, and the laborer is worthy of his hire, but money is not the standard of success in the practice of medicine. The attainment of ideals is satisfying, and will more likely bring success. The money will follow. The doctor who thinks only in terms of his own advantage and not of the welfare of his patients and the advancement of his science, or who cannot give the service the ideal requires, will find life an empty thing.

While in any enterprise success consists in rendering service to the public when they want it, and in the way they desire it, it is more the case in our profession than in any other. The financial rewards will naturally follow, but should be far in the rear. The large number of many-sided contacts, with their complex ramifications, and the high calling, with its many opportunities and privileges to help suffering

* Presidential address delivered before the Medical Society of Delaware, Farnhurst, Del., October 12, 1927.

humanity, bring to mind the most outstanding qualifications, and are a reminder that in this profession "our vocation must be our avocation." Can you conceive of any man being successful in an enterprise in which he is not interested or which he hates? Any doctor who feels that way should leave the profession at once and secure some other work, since in our calling, in common with that of the clergyman, devotion and consecration are imperative. The man who enters the profession for any other reason than these has made a serious mistake, and should rectify it as soon as possible. Think of the satisfaction one can have as a Weelum MacLure or a Grenfell or an Ambroise Paré. The whole personal history of medicine should be an inspiration.

The real doctor, which means a portrait of a successful doctor, cannot be found in books, but in real life. The combination of knowledge, the understanding heart, which has to do with intuition and tact, associated with the experience that tranquilizes, cannot help but radiate hope and confidence. The professional qualifications may change, since one has to keep abreast of the times, but one's personal qualifications change only in that he understands better how to deal with the patient himself. He must be such a man as the surgeon of whom the poet Henly wrote:

> Faultless patience and unyielding will,
> Beautiful gentleness and splendid skill.

We might be called successful if our patients could think of us as "trained men of science and public service, rich in personality, serene and secure in the feeling that others depend upon us; and holding ourselves for one of the very highest and most satisfying services to our kind."

As to the methods or ways of attaining success, the technic so to speak, I am treading on dangerous ground when I attempt to suggest how one should go about it. You will all concede the necessity of proper and good training, as well as that *sine qua non,* experience. It is equally important, you will also admit, that the opportunity exist to "ply the trade" in a suitable place and manner. More have failed for this latter reason than for the former. Of course, the really able man will likely make his opportunity. As to training, it is like knowledge of all kinds, it attains its true significance only by the humane sense in which it is employed. Only a good man can be a good physician. All our knowledge and ability receives the stamp of genuine nobility only when employed by this spirit of true nobility.

Education of the feelings and manners must run parallel with the intellectual and scientific education. It is my conviction that our profession must be our greatest treasure. We must love it, for where our treasure is there will our heart be. It is then a living pleasure and not a deadening toil. The difficulties should serve as stimuli, and probably will. We do not need to be upset and annoyed by the competition of those who should be our friends. Jealousies are unnecessary and harmful, and they should be avoided. The competition of irregulars and cultists is best disregarded. They may be put down as one more of our endurance tests. Time will deal properly with them.

It is necessary for the physician, as well as the man in business, to keep up to date with the progress of medical science as a duty to himself as well as to his patients. This requires determined and constant effort, since things are moving rapidly these days and we are living in the greatest epoch the world has ever seen. Old things are passing away and it is extremely necessary that we do not fail to grasp the tremendous opportunities offered us. We must ever keep an open mind as to these advances, and be able to sift the wheat from the chaff, however. Many of us have lived through some wonderful discoveries that were going to revolutionize the practice of medicine, but we have seen them thrown in the discard. With a steady accession of new information it is well to keep to the middle course in regard to the great stream of discoveries and cures constantly arising. Pope has expressed this principle in his *Essay on Man.*

> Be not the first by whom the new is tried,
> Nor yet the last to lay the old aside.

Osler it was, I think, who said, "The medical profession has had a long and persistent struggle with superstition, not only in the profession itself but also among the public. The constant endeavor to find useful truth and put it to practical purposes in the relief of the sick is the mainspring of the profession. It always has to look ahead. Its ideals stand out in the lives of its great leaders. In the muck of human failure and weakness, its vision leads upward to a greater spread of human happiness.

> Two men looked out from the prison bars,
> One saw mud, the other stars.

Our profession must see the stars."

Trying to do the spectacular is a mistake. It is rather the determination to do well the little things that constantly come to hand which brings success. They must not be despised, and their weight in the final reckoning is usually very great. History is full of Davids who have overcome Goliaths. It is the attention to details that helps to get patients. I am sure the applause of

our fellow practitioners is usually given to those of us whom they do not consider as competitors, so one should not be disappointed if these plaudits are not forthcoming or if they talk behind our backs. Some one has said "every knock of this kind is a boost." So often is the applause given to those who are colossal failures in the long run. It is a cold selfish world.

It is a dangerous thing to advertise oneself in any manner but by one's work. It is not necessary to success, and it is sure to prove a boomerang for a man to sound his own praises, even in a covert manner. The surgeon brings only ridicule on himself when he tells a patient that his case was the worst he ever saw and if he had not fallen into his hands when he did, he would surely have died; likewise the general practitioner who says his patient's condition is worse than it is, so that he may claim a wonderful cure. After all, if there is any one qualification which will bring success it is honesty. Even if one leaves out of the question the moral side of it, honesty is undoubtedly the best policy. No doctor can succeed without it, and it must be applied in the strictest sense. The honest physician is the conscientious one.

Reliability is very important. The man whom people find is easily and constantly available, soon gets to be known as one on whom they can depend, and patients come to him and remain with him.

Another thing that seems to be necessary to success is hard work. There is no place in this world in any capacity nowadays for the laggard or idler. We must always be trying to pass the man ahead, but it is not necessary to tramp him under foot when doing so. Foolish habits of laziness and indifference must be overcome. A polite, courteous, and kindly manner must be cultivated. No man can serve two masters, and this applies more to the practice of medicine than to any other profession. The lawyer may combine politics with his work, the clergyman may have other occupations at the same time, but the successful doctor cannot have any but his profession. He must eat, sleep, and think with his work in season and out of season. There must be tireless striving, and endless devotion to it. There is no let-up. Even failure is not an excuse. It is indeed often the beginning of success, since one has learned the vital lessons necessary, and they serve to develop the faculties that are needed to succeed. All the time one is acquiring more wisdom, and can profit by King Solomon's choice, thereby doing as he did, attaining both wisdom and riches.

One might quote the hippocratic oath, which is supposedly antiquated but is unequaled as a model, and if followed would set out a method of attaining success, since it expresses the ideals of the profession. There is no sounder code of ethics, and nothing could make for a stronger brotherhood. The successful doctor observes the usual rules of ethics, which can be summed up as "practicing the golden rule toward his professional brethren, his patients, and his social contacts."

There is one idea held by many physicians which I am glad to see is the cause of a great deal of just criticism and probably will be changed in the near future. I refer to the conception or implied conception that a physician has ownership in a patient by virtue of the fact that the latter has consulted him. This ownership does not and cannot exist. No patient can be made to see it this way. The patient undoubtedly has a right to consult any physician he chooses.

I have said little about the art of medicine, which is essential and can be acquired only by those born with certain fundamental characteristics, perhaps the most necessary being a proper character and the acceptance of a moral code. These are great assets, for success often lingers on a correct diagnosis of one's own personality, and it is the lack of knowledge of these definite and certain fundamentals in the art of medicine that place a tremendous handicap on those who would attain success. Many are sincere in their efforts, but they grope blindly in the dark and lose their way. They struggle vainly against trained thinkers, and have no chance to win.

The personal relationship between physician and patient is of vital importance, and time, sympathy, and personal attention must be lavishly dispersed along with advice and treatment.

Therefore, to sum up the matter, success is unwavering and self-satisfying devotion to the ideal, and unselfish service to humanity, whether one is a specialist or general practitioner. It can be attained only by courage, honesty, reliability, proper training, and the ability to work hard and stick close, founding our expectation of success on our personal and scientific qualification "to keep whatever is honest, whatever is true, whatever is just, and whatever is pure" foremost in our minds and be governed by it. Do all the good we can to all the people we can in all the ways we can, discharging each obligation with fidelity and honor, and then will follow the feeling of having done our duty, which means success in this world and reward in the next.

In closing, I should like to quote a paragraph from Paget's *Confessio Medici,* which is very applicable:

"Every year, young men who are neither born

doctors, nor have any great love of science, nor are helped by name or influence, without a welcome, without money, without prospects, fight their way into practice, and in practice they find it hard work, ill-thanked, ill-paid. There are times when they say 'What call had I to be a doctor? I should have done better for myself and my wife and the children in some other calling.' But they stick to it, and that not only from necessity, but from pride, honor, and conviction, and heaven sooner or later lets them know what it thinks of them. The information comes as quite a surprise to them, being the first received from any source that they were indeed called to be doctors, and they hesitate to give the name of divine vocation to work paid by the job and shamefully underpaid at that.

"Calls they imagine should master men, beating down on them. Surely a diploma obtained by hard examinations and hard cash, and signed and sealed by earthly examiners cannot be a summons from heaven. But it may be, for if a doctor's life may not be a divine vocation, then no life is a vocation and no life is divine."

EDITORIAL

PERIODIC HEALTH EXAMINATION

Probably no single service will increase the prestige of the doctor and gain for him the respect and confidence of the laity so much as the periodic examination of presumably well men. This is another concrete illustration of the fundamental tenets of the medical profession, to prevent disease and prolong life.

Fortunately, the laity is not unprepared for this, the latest advance in preventive medicine. Life insurance—to prevent dependence; fire and all other forms of insurance—to prevent economic loss; boiler inspection and various safety devices to forestall accidents; in short, the thousand and one schemes promulgated or put into practice proclaim the wisdom of the ounce of prevention which is worth a pound of cure. It is only natural, therefore, that the idea of medical inspection should take root in a receptive public mind.

Unfortunately, the medical profession is not ready, to use a colloquial expression, to deliver the goods. The inspection of a boiler or elevator is still a vastly different thing from the inspection of a man in fairly good health.

We shall dismiss as obvious the instances, and they must be numerous, of lack of knowledge, experience, and skill in making a physical examination; equally, we shall not consider the probability of indifference or even antagonism on the part of many physicians who, nevertheless, will make health examinations because it is demanded of them by their patients or by the exigency of competition. Leaving out of consideration these factors, though of serious import, we are still confronted with the problem of making good a promise to do the thing which, after all, we are not yet in a position to accomplish fully.

To begin with, we are still lacking standards and yardsticks by which a presumably normal man may be measured. Nor are we in a position to state at what point a departure from "normal" constitutes a defect or disability. Those of us who had to do with the examination of recruits during the Great War had been frequently amused and at times bewildered by the changes of standards that were issued by the Provost General's office.

In the examination of symptom-free individuals, the burden of securing evidence is shifted from the physiologic to the anatomic basis, and the question frequently arises, to what extent does a departure from a normal anatomic standard constitute a defect or presage disease? We know that not all enlarged tonsils are diseased, that underweight may be consistent with perfect health, that visceroptosis may be associated with perfect function, and that a slight cardiac murmur is of no significance. The time when every prolapsed but normally functioning uterus was suspended, and every loose kidney yanked up into its proper hanger is still fresh in our memory; while the slaughter of innocent tonsils and "tonsil-drives" is of daily occurrence. Even a rise in blood pressure may not, in a given case, be so ominous as the physician thinks. The danger, of course, is that the physician may do a great deal more harm than good by disclosing to the individual who is being examined the existence of conditions, the import of which is questionable.

Difficult as a diagnosis is in cases where conditions are readily discernible or subject to measurement, the situation is very much worse when correct findings are possible only when the delicate methods of palpation, percussion, and auscultation are skillfully applied. In the examination of the heart and lungs, the average physician is very apt to overlook changes which are of importance. A murmur accompanied by cardiac hypertrophy is an entirely different matter from one that is not. A slight impairment with alterations in breath sounds may escape detection by one unskilled in physical diagnosis, and thus make the difference between life and death or, at best, perfect recovery and chronic invalidism.

We are not suggesting that the difficulties mentioned are insurmountable, nor are they sufficient to invalidate the plan of periodic examinations. Indeed, a painstaking examination, even by the average physician, will frequently disclose pathologic changes early enough to be corrected. But we submit that the profession as a whole is not prepared for the kind of health examination that the laity expects, and there is great danger of the scheme falling into disrepute through errors of omission or commission.

One way of meeting the situation is to establish in connection with our teaching institutions and hospitals "health clinics," where persons in presumably good health would be examined. This scheme would, in the first place, put the stamp of approval on the entire plan of health examinations, would tend to popularize the idea, and, above all, teach our medical students how to examine normal individuals and learn to recognize departures from the normal.

Advance in cleanliness and sanitation has taken place parallel with the advance in medical science. The estimated average length of human life in the Sixteenth Century was between 18 and 20 years. At the close of the Eighteenth Century it was still less than 35 years. As late as 1900 it was between 45 and 49 years. And now, in the United States, the average length of life is 58 years.—*Cleanliness Journal.*

Proceedings of the
MEDICAL SOCIETY OF DELAWARE

138th Annual Session

The meetings were held at the Delaware State Hospital, Farnhurst, Delaware, on October 11 and 12, 1927. Approximately a hundred members of the Society were present, including the House of Delegates, which convened at the same time.

Tuesday, October 11th, 9 a. m.

President Harold L. Springer called the meeting to order, and Secretary W. O. LaMotte called the roll. Reading of the minutes of the last session was dispensed with, as they had already appeared in print.

The report of the secretary was read, and after discussion, it was decided to accept the report and publish it, as follows:

Report of the Secretary

There are about 231 physicians in our State, and 151 are members of the Society. Last year the State Society dues were raised one dollar per capita, and we have lost only five members. The dues were $4, two of which paid for an excellent journal, one of which went into the Defense Fund, leaving one dollar to run the Society, including a luncheon for each member and guests present at the annual meeting. The dues now are five dollars, and we are able to see our way through this year, with the help of including a meeting that you all will probably endorse.

The following are reports from the county societies:

New Castle County Society.—This society has had a very successful year. We have been fortunate in having good speakers and the individual members are becoming more keen on reporting clinical cases. The nucleus for a permanent Physicians' Motor Club has been started, with Dr. Bastian as president. Our annual outing was enjoyed by a large attendance, and if our State convention approaches it in spirit, all may be assured of a very successful meeting. There are two or three delinquents in dues as usual. We have received several new members through transfer, and to date have five applicants for membership. We now hold our meetings in the new University Club at 1301 Market Street.

Brice S. Vallett, M.D., *Secretary.*

Kent County Society.—The number of members in the society during the year was twenty-seven. The officers were: president, E. F. Smith, Kenton; vice-president, I. H. Boyd, Dover; secretary, A. T. Davis, Dover.

Meetings were held every month during the year, with the exception of July and August, but on two occasions a quorum was not present.

The work of the society was largely confined to the discussion of clinical cases. A joint meeting was held with the Sussex County Medical Society at Milford, which was very successful. No special papers were presented during the year.

A. T. Davis, M.D., *Secretary.*

Sussex County Society.—We have been having very good attendance at our meetings, which are held in different towns on the second Thursday of each month at 8 p. m. We have had very interesting talks and discussions, both of which have been most beneficial to each member. Our attendance also has been greatly increased by the refreshments served by our hosts.

Joseph B. Waples, Jr., M.D., *Secretary.*

Within the past year a questionnaire was sent to every physician in the State. Since this Society has gone on record unanimously in favor of physicians being allowed to prescribe alcoholic medicaments in treatment of disease, the principal questions asked were: (1) Do you favor having the Klair Law repealed so that physicians may have the right to prescribe alcoholic liquors such as whiskey or brandy in the treatment of disease? (2) In your judgment will pure grain alcohol when administered to a patient have the same beneficial results as prewar brandies or whiskey?

To the first question, 167 voted yes and 19 voted no; in other words, 89 73/93 per cent voted this law should be changed.

To the second question, 174 out of 186 (or 94 per cent) voted in the negative; that is, that pure grain alcohol cannot take the place of prewar brandies or whiskey. The vote from New Castle County was 94 38/123 per cent in favor of changing the law, from Kent County 67 2/11 per cent, and from Sussex County 87½ per cent. The secretary appeared before the State Legislature and presented the results of this questionnaire. If the vote had been reversed he would have appeared just the same, and would have pleaded for the cause expressed in such a predominant vote.

If ninety per cent of our doctors want something that has to do with their profession, they should have it, and they can have it if they have the will to get it. It would seem that it should be the duty of your officers to go through the State doing all in their power to arouse the profession to get what such a predominant number voted they wanted, but did not get.

Respectfully submitted,
W. O. LaMotte, M.D., *Secretary.*

The report of the treasurer was read, and found correct by the auditors, H. W. Briggs, W. E. Bird, and Edward M. Vaughan, as follows:

Report of the Treasurer

Receipts

Balance in hand Oct. 11, 1926		$390.08	
Nov. 6.	New Castle Co. Socy. ...	4.00	
Dec. 1.	New Castle Co. Socy. ...	4.00	
Dec. 16.	No record	1.00	
1927			
Jan. 8.	Dover Bank dividend ...	28.00	
Apr. 4.	New Castle Co. Socy.....	455.00	
Apr. 6.	New Castle Co. Socy. $10		
	Kent Co. Socy. 135	145.00	
Apr. 14.	Sussex Co. Socy.	90.00	
Apr. 22.	New Castle Co. Socy. ...	10.00	
May 31.	No record	30.00	
June 10.	Sussex Co. Socy.	20.00	
July 2.	New Castle Co. Socy. ...	5.00	
July 6.	Dover Bank dividend ...	28.00	
Sept. 23.	New Castle Co. Socy. ...	10.00	
	Interest	6.68	
			$1,226.76

Expenditures

1926			
Oct. 6.	Annual luncheon	$93.75	
Oct. 26.	Stenographic work	88.75	
Nov. 5.	Secy's expenses	18.85	
Dec. 28.	Printing	9.75	
1927			
Apr. 27.	Repairing typewriter	15.00	
June 10.	Medical Directory	15.00	
June 22.	Atlantic Medical Journal	274.00	
July 5.	Atlantic Medical Journal	24.00	
Aug. 29.	Badges	14.33	
Oct. 4.	Medical Journal expenses	3.25	
Oct. 5.	Defense Fund	149.00	
			705.68

Balance on hand Oct. 8, 1927..... $521.08
Defense fund Wilmington Savings Fund Socy. $1,586.79

Samuel C. Rumford, *Treasurer.*

Wilmington, Delaware,
October 8, 1927.

Examined and found correct,
H. W. Briggs,
W. E. Bird,
Edward M. Vaughan,
Auditors.

The reports of the various committees are as follows:

The Committee on Scientific Work: The report was read by Dr. Tarumianz, and stated that the committee had prepared a program which would interest every member of the Society, and had arranged clinics and scientific and technical exhibits. The hospitals of the

State were urged to pay more attention to these scientific exhibits. A three-day session was suggested, as the committee has come to the conclusion that two days is not sufficient time for a State Society meeting. There is great need for a complete library somewhere in Delaware, and it was recommended that a certain sum be utilized for purchasing a few volumes that are not available in the library, to be the property of the State Medical Society. The committee also suggested that a psychologist be employed who should be directly connected with the State Hospital, and whose time should be divided among the various State and county institutions. It was stated that an annual expenditure of $5,000 would establish this department. It was advised that the Society establish a woman's auxiliary, which would be helpful in carrying out this important project. It was also recommended that the Board of Directors of the Delaware Colony for the Feeble-minded be given a resident physician. It was felt that the Society should take more interest in the medical activities of the State, and should publish interesting material in the *Journal of the American Medical Association.*

Dr. Robin suggested that the State Medical Society contribute a certain sum towards the medical library at present being established at the Delaware State Hospital.

A motion was carried that the Committee on Scientific Work be authorized to expend a sum of money not to exceed $100, such amount to be used in the purchase of books or periodicals to be placed in the library of the hospitals or other institutions, at the designation of this committee.

Dr. Briggs stated that there had been no occasion for a meeting of the councilors during the year. He discussed the question as to whether or not it would be justifiable for the Society to defend a man arrested for malpractice, and spoke of the need in other counties for the councilors, saying that he, personally, had tried to keep in touch with the county societies.

Committee on Public Policy and Legislation: The bill proving that lye shall be considered a poison and so labeled, as recommended by the A. M. A., was passed in the last session of the legislature.

Two other bills allied to the practice of medicine were also passed—that of the State Board of Optometry, increasing the requirements for licenses, and that of the State Board of Chiropody, along the same lines. Also a bill increasing the amount appropriated by the Levy Court of New Castle County for the care of indigent sick from $50,000 per annum to $75,000 per annum was passed.

The only other bills of interest to the medical profession were those introduced to permit the physicians to prescribe alcoholic liquors, which were not passed.

Respectfully submitted,

A. T. David,
O. V. James,
J. W. Bastian.

Committee on Medical Education: No report.

Committee on Necrology: Dr. Conwell stated for this committee that he knew of no deaths to report during the past year, but Dr. P. W. Tomlinson stated that he had prepared the following:

Dr. Hiram R. Burton, of Lewes, Del., was born November 13, 1841, the son of Joshua S. and Ruth Hunn Rodney. He was educated at St. Peters Academy at Lewes, and at the University of Pennsylvania, graduating from the latter in 1868. He practiced at Frankford, Del., from 1868 until 1872, and in Lewes from 1872 until within a year of his death.

He was a director and chairman of the Delaware Trust Company of Lewes, of the Continental American Life Insurance Company, and of the Farmers Mutual Fire Insurance Company. Throughout his life, Dr. Burton was active in public work and in politics. From 1890 to 1894 he was assistant surgeon in the United States Marine Hospital. For several years after the passage of the Medical Practice Act of our State, he was a member of the Board of Examiners. He was our representative in Congress for four years, and was, and is still regarded as one of the most useful members of Congress Delaware ever had. For many years he served as a trustee for the State Hospital for the Insane at Farnhurst, and was an active member of the Delaware State Medical Society all his professional life. Dr. Burton was a member of the Protestant Episcopal church, and of the Masonic Fraternity.

He was married on June 19, 1877, to Margaret V., the daughter of John M. and Leah Rawlins, of Georgetown, Del. He is survived by one daughter, Leah, the wife of Dr. Rowland G. Paynter, an honored member of this Society.

Dr. Burton was located temporarily in Washington during the administration of President Lincoln, and talked most entertainingly at times of the stirring scenes of that period.

Committee on Publication: This committee reported substantially the same as the previous year, stating that they had published all the transactions of the State Society, plus miscellaneous papers from local and distant sources, together with editorials and book reviews. The committee feels that the quality of the output has suffered no deterioration this year, and there has been a slight increase in volume. Relations with the publishers of the Atlantic Medical Journal continue to be most cordial and helpful, and the committee suggested the continuation of the present arrangement.

Dr. Bird moved that the joint publication of the Atlantic Medical Journal be continued for another year. Motion seconded by Dr. Forrest and carried.

Dr. Briggs commented on health problems in education and discussed the giving of toxin-antitoxin for prevention of diphtheria.

Dr. Davis discussed the meeting of the Council on Medical Education and Hospitals in conjunction with the Federation of State Medical Boards of the United States, held at the Palmer House, Chicago, Ill., February 14-17, 1927.

Stress was laid on the need of periodic examinations of well people, and that the family physician should be considered as a medical adviser, just as the lawyer is a legal adviser. The *Committee on Public Education* feels that the public ought to be educated in this respect.

The report of the *Nominating Committee* was presented as follows: president, William F. Jones, Laurel; first vice-president, B. M. Allen, Wilmington; second vice-president, A. T. Davis, Dover; secretary, W. O. LaMotte, Wilmington; treasurer, S. C. Rumford, Wilmington; councilors, H. W. Briggs, Wilmington, I. J. MacCollum, Wyoming, and W. T. Jones, Laurel; delegate to Maryland Society, W. T. Chipman, Harrington; delegate to Pennsylvania Society, E. H. Lenderman, Wilmington; delegate to New Jersey Society, I. A. B. Allen, Seaford; delegates to State Pharmaceutical Society, Earl Bell, Wilmington, C. J. Prickett, Smyrna, H. M. Manning, Seaford; Committee on Scientific Work, M. A. Tarumianz, Wilmington, John James, Dover, Roscoe Elliott, Laurel; Committee on Public Policy and Legislation, Joseph McDaniel, Dover, J. W. Bastian, Wilmington, James Beebe, Lewes; Committee on Medical Education, H. W. Briggs, Wilmington, G.

Frank Jones, Georgetown, William Marshall, Milford; Committee on Health Problems in Education, A. T. Davis, Dover, T. H. Davies, Wilmington, J. A. Ellegood, Wilmington, Fred Armstrong, Wilmington, William R. Orr, Lewes; Committee on Necrology, Edward Vaughan, Middletown, C. deJ. Harbordt, Dover, U. W. Hocker, Lewes; Committee on Publication, W. E. Bird, Wilmington, A. Robin, Wilmington, W. O. LaMotte, Wilmington; Hospital Committee, Joseph McDaniel, Dover, John H. Mullin, Wilmington, Richard Beebe, Lewes; names to be sent to the Governor for his selection of two as members of the Medical Examining Board, H. W. Briggs, J. H. Mullin, H. L. Springer, Wilmington; Oliver James, Samuel Marshall, Milford; Lewis Booker, New Castle; Joseph McDaniel, Dover; James Beebe, Lewes; Elliott Roscoe, Laurel; G. F. Jones, Georgetown.

It was moved, seconded, and carried that the report of the Nominating Committee be accepted.

Reports of Delegates

Dr. LaMotte read the report on the meeting of the American Medical Association, as follows:

When the House of Delegates of the American Medical Association met, the press did not seem to be interested in what new discoveries had been made in medicine or in what the great Medical Association and its members were doing to prevent disease, but in whether the Association was wet or dry. Consequently there was adopted a resolution: "That every resolution presented relating to the alcohol question be referred to the Board of Trustees for investigation."

The president of the American Medical Association, in his address to the House of Delegates referred to the action of Congress relating to the Volstead Act, and quoted at length a group of medical men, including the Executive Committee of the Association, from an article they published under the heading "Shall Congress have Power of Life and Death over the Sick?" A resolution "That the American Medical Association declares its adherence to the principle that legislative bodies composed of laymen should not enact restrictive laws regulating the administration of any agent by physicians legally qualified to practice medicine" was thoroughly discussed, and one member declared that he was strongly for temperance and was a member of the Anti-Saloon League, but that he was going to support this resolution. The resolution was passed by a unanimous vote.

With reference to a referendum on the medicinal-liquor question, the matter was referred to the Board of Trustees with power to act, and in case a referendum was considered advisable the following questions were suggested:

(1) Do you believe that legislative bodies should enact laws regulating or limiting the prescribing of therapeutic agents by legally qualified physicians?

(2) Do you believe that alcohol and alcoholic liquors, as listed in the latest edition of the *United States Pharmacopeia*, are useful therapeutic agents in the treatment of disease?

Your representative appeared before the committee having these matters in charge, and presented the results of the vote taken here in Delaware. These results seemed to appeal to some, at least, not as coming from a small state, but as being such a complete expression of what might be called a cross section of the country.

A notice of amendment to the constitution to be voted upon next year gives the House of Delegates power to discipline or expel a member of the American Medical Association or a Fellow of the Scientific Assembly on recommendation of the Judicial Council.

The report of the Board of Trustees showed that the circulation of *Hygeia* had increased during 1926 until at the end of the year the mailing list carried 50,575 names. In 1924, 53 per cent of the total circulation was among laymen; in 1925, 56 per cent; and in 1926, 82 per cent. More than 13,000 physicians take it, and it is of interest to note that more teachers than physicians take it.

Dr. William S. Thayer was chosen president-elect, and the meeting place for next year is Minneapolis.

Respectfully submitted,
W. O. LaMotte.

Dr. Robin reported on the seventy-seventh annual session of the Medical Society of the State of Pennsylvania. There were no reports from the delegates to the Maryland, New Jersey, or New York Society, nor to the Delaware Pharmaceutical Society.

The following resolutions were offered by Dr. Forrest:

Resolution 1

Whereas, The Medical Society of Delaware feels that the State is in great need of a psychologist who should be directly connected with the State Hospital, and whose time would be divided among the various State and county institutions, and

Whereas, At the present time such institutions as the Industrial School for Girls and Boys, the County Workhouse, and the Colony for the Feeble-minded do not have this facility; therefore, be it

Resolved, That the Medical Society of Delaware requests the coöperation of the various boards of these institutions with the Committee on Public Policy and Legislation in an endeavor to secure from the Delaware State Legislature an appropriation of $5,000 to establish this particular department.

Resolution 2

Whereas, The Medical Society of Delaware recognizes the urgent need of a resident physician at the Delaware Colony for the Feeble-minded; therefore, be it

Resolved, That this Society recommends to the Board of Directors of the Delaware Colony for the Feeble-minded the advisability and necessity for the appointment of a resident physician at this institution.

Resolution 3

Whereas, The taxpayer is permitted to deduct from his income or is allowed an exemption for losses by fire, storm, breaking and wearing out of machinery, and bad debts, and

Whereas, The human body is the greatest factor in the earning of income; therefore, be it

Resolved, That this Society recommends to the State Legislature of Delaware that they provide in the tax law for deduction from income expenses for the taxpayer and family incurred for medical treatment, surgical operations, hospital and funeral expenses, drugs, professional services, and nursing.

Resolution 4

Whereas, The Medical Society of the District of Columbia is seeking enactment by the Congress of the United States of a comprehensive medical-practice act which will regulate licensure of those who treat ailments of the human body, and

Whereas, The physicians residing within the District of Columbia are disfranchised and deprived of representation in either the Senate or the House of Representatives, being denied the privilege of the ballot, the right accorded every citizen of the United States except those residing within the District of Columbia, and

Whereas, The City of Washington, because of its inadequate law, has become the Mecca for cultists and irregulars of every description, as well as the diploma mills of the lowest type; therefore, be it

Resolved, That the House of Delegates of the Medical Society of Delaware advocate this proposed enactment and support the District of Columbia Society in securing this much-needed legislation.

Resolution 5

Whereas, The psychiatric and neurologic training of nurses is of great importance; and

Whereas, No accredited school for nurses should be without a special course in neurology and psychiatry, and

Whereas, This course should consist not only of theory but also of practice, and

Whereas, The American Medical Association has recognized the importance of psychiatric training for nurses, and

Whereas, The American Psychiatric Association and the National League of Nursing Education have urged this training, and

Whereas, This training can be obtained in Delaware only in the State Hospital at Farnhurst; therefore, be it

Resolved, That the House of Delegates of the Medical Society of Delaware recommend for endorsement the plans to include a two-months' training in psychiatry and nervous diseases in all training schools for nurses, and that a copy of this resolution be sent to all the training schools for nurses in the State of Delaware.

After discussion, all of the above resolutions were adopted.

The secretary then read the communications, as follows:

A communication from Dr. John M. Dodson, of the American Medical Association, called attention to the celebration of American Education Week, occurring November 7th to 13th. He inclosed copies of a circular sent by Secretary Crabtree of the National Education Association, at Washington, and stressed the fact that the first day of education week would be devoted to health, asking that all members be urged earnestly and actively to engage in the promotion of this celebration. This communication was read and ordered filed.

A communication from F. H. Martin, director-general of the Clinical Congress of the American College of Surgeons, informed the Society of the meeting of the Congress in Boston, October 8 to 12, 1928, and asked that the Delaware meeting be arranged so as not to conflict with the Boston meeting, inasmuch as so many members of this Society are fellows of the American College of Surgeons. This was read and ordered filed.

The Finance Committee authorized the Secretary to pay any bills incurred. This was approved by all members present.

Dr. LaMotte moved that the money received from the exhibits be given to the State Hospital towards defraying some of the expense of entertaining the Society. Seconded and approved.

A motion was approved that the program as printed be the official order of proceedings.

The motion was approved that the next meeting of the Society be held at Rehoboth on the second Tuesday and Wednesday of September, 1928.

A vote of thanks was extended to the Board of Trustees and Dr. Tarumianz for their untiring efforts in the preparation of this meeting.

The Society adjourned at 12.30 to partake of a luncheon served by Dr. Tarumianz and his assistants.

Tuesday, October 11th, 2 p.m.

The program of the afternoon session included the following clinics:

Operations in general surgery, by H. L. Springer.
Laryngology, Otology, and Rhinology, by W. O. LaMotte.
Gynecology, by Wm. Wertenbaker.
Practice of Medicine, by Henry W. Briggs and Albert Robin.
Ophthalmology, by J. A. Ellegood.
Roentgenology, by G. C. McElfatrick.
Neurology and Psychiatry, by M. A. Tarumianz, W. R. Livingston, and P. F. Elfeld.

The clinics were followed by a dinner served to members and guests by the New Castle County Medical Society.

At 7.30 p. m. a reception was held for the president, and he was presented with a basket of dahlias.

At 8 p. m. there was a vaudeville entertainment and dancing.

Wednesday, October 12th, 9 a. m.

The program was as follows:

Invocation by the Rev. Joseph H. Earp, rector of the Immanuel Episcopal Church, New Castle.

Addresses of welcome by the Hon. Robert P. Robinson, Governor of Delaware, Fred H. Gawthrop, president of the Board of Trustees of the Delaware State Hospital, and M. A. Tarumianz, superintendent of the Delaware State Hospital.

Address by the president of the State Society (printed in this number of the Journal).

"The Liver Treatment of Pernicious Anemia," by Lewis Booker, New Castle.

"The Treatment of Heart Disease," by Joseph Sailer, Philadelphia, Pa.

"Mental Disease and the Family Doctor," by Charles W. Burr, Philadelphia, Pa.

"Surgical Treatment of Cleft Palate" (lantern demonstration), by G. M. Dorrance, Philadelphia, Pa.

"The Management of the Patient with Prostatic Obstruction" (lantern demonstration), by B. A. Thomas, Philadelphia, Pa.

"Obstetrics in the General Practice of Medicine," by Joseph S. McDaniel, Dover, Del.

"The Relation of the Medical Profession to Periodic Examinations, and the Instruction of the Public on Health and Preventive Medicine" (lantern demonstration), by Joseph Colt Bloodgood, Baltimore, Md.

The suggestion of Dr. Davis was approved that a committee be appointed (number to be determined by the president) to devise acceptable forms and issue the necessary publicity bearing upon the subject of periodic examinations, and extending over a period of considerable time.

"Gynecologic Operative Technic" (moving-picture demonstration), by William Wertenbaker.

"General Survey of Gastro-intestinal Study" (lantern demonstration), by B. M. Allen, Wilmington.

"Different Obstetrical Forceps," by J. W. Bastian, Wilmington.

"Acute Intestinal Obstruction; Causes, Diagnosis, Prognosis, and Treatment," by James Beebe, Lewes.

"The Malaria Treatment of General Paresis," by W. R. Livingston and P. F. Elfeld, Delaware State Hospital. (Read by title.)

The Society adjourned *sine die*.

Medical News

Deaths

Mrs. K. F. D. Borrowes, mother of Dr. George H. Borrowes, Philadelphia; October 19.

Edwin C. Warg, M.D., of Philadelphia; Jefferson Medical College, 1889; aged 72; October 19.

Adam Klemm, M.D., of Philadelphia; Jefferson Medical College, 1891; aged 65; September 25.

John M. Waid, M.D., of Titusville; University of Pittsburgh School of Medicine, 1888; aged 68; June 3.

Sherman T. Moyer, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1886; aged 63; October 9.

George R. Coates, M.D., of Pittsburgh; Western Pennsylvania Medical College, 1903; aged 49; September 5, of pneumonia.

Bernard J. Henney, M.D., of Carnegie; University of Pittsburgh School of Medicine, 1903; aged 49; September 16, of carcinoma.

Evan William Evans, M.D., of Easton; University of Pennsylvania School of Medicine, 1884; aged 65; in August, of heart disease.

John C. Wahl, M.D., of Scranton; University of Pennsylvania School of Medicine, 1912; aged 39; suddenly, October 11, while testifying in a magistrate's court.

Henry M. Hurd, M.D., formerly superintendent of the Johns Hopkins Hospital, Baltimore, Md., for twenty-two years; aged 84; recently at his home in Ventnor, N. J.

Wilson J. Smathers, M.D., of Dubois; Jefferson Medical College, 1873; formerly president of the school board, and president and secretary of the board of health of Dubois; aged 76; August 16, of diabetes mellitus.

Miss Judith Solis-Cohen, daughter of Dr. J. Solis-Cohen, of Philadelphia; October 8. Miss Solis-Cohen was editor of *Womankind* for several years, and many of her short stories, nature articles, and fashion notes have been published.

Clarence Hoffman, M.D., of Philadelphia; Jefferson Medical College, 1906; member of the American Association of Anatomists; associate in anatomy at his alma mater for the past twenty years; aged 50; September 21, of cerebral hemorrhage.

J. Paul Lukens, M.D., of Wilmington, Del.; Hahnemann Medical College and Hospital of Philadelphia, 1878; one of the founders of the Homeopathic Hospital, Wilmington, and president of its staff; also one of the founders of the State Homeopathic Medical Society; aged 71; September 6, due to a general breakdown.

Simon Wendkos, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1907; former superintendent of Mt. Sinai Hospital, and member of the staffs of the Northern Liberties and Howard Hospitals; member of the Joint Distribution Committee for Relief of Jewish War Sufferers in Poland in 1920; aged 49; October 12, of heart disease.

Births

To Dr. and Mrs. John Frazer, of Chestnut Hill, a son, September 19.

To Dr. and Mrs. J. Stratton Carpenter, of Pottsville, a son, August 10.

To Dr. and Mrs. William E. Delaney, Jr., a son, William E. Delaney, 3d, August 17.

To Dr. and Mrs. Ralph B. Walter, of Harrisburg, a son, Ralph Somers Walter, Jr., recently.

To Dr. and Mrs. Roy L. Langdon, of Philadelphia, a daughter, Virginia Norris Langdon, August 9.

Engagements

Miss Juliet F. Eshner, daughter of Dr. and Mrs. A. A. Eshner, of Philadelphia, and Mr. Theodore G. Rich, of Brooklyn.

Miss Edna Gertrude Rothman, daughter of Mr. and Mrs. Israel P. Rothman, Pittsburgh, and Dr. Benjamin Kuntz, of Pittsburgh.

Miss Louise Epting Vansant, daughter of Dr. and Mrs. Eugene Larue Vansant, of Philadelphia, and Mr. Lewis Henry Esler, also of that city.

Miss Hallie Virginia Hill, daughter of Dr. and Mrs. Harry Schuyler Nicholson, of Pittsburgh, and Mr. Frederick Rufus Crawford, of the same city.

Marriages

Miss Josephine Gannett Ditchfield to Dr. John B. Klopp, of Chester, October 1.

Miss Dorothy Dodge, of Glenside, to Dr. Thomas J. Cush, of Johnstown, August 24.

Miss Emma Lepotskey to Dr. B. C. Balas, of Brownsville, September 7, at Lorain, Ohio.

Miss Sara Elizabeth Fritch, of Macungie, to Dr. Ralph Howard Henry, of Allentown, October 8.

Miss Lauretta Reed, former student at the University of Pennsylvania School of Dentistry, to Dr. Frederick James, recently appointed professor of histopathology at Temple University, September 24.

Miscellaneous

Dr. Albert E. Roussel, of Philadelphia, has returned from a three-months' trip abroad.

Dr. Julia H. Slack, of Bristol, recently returned from a three-month's tour of Alaska.

Dr. and Mrs. George B. Kunkel, of Harrisburg, sailed October 8 on the *Roma* for Europe and the Holy Land.

Dr. Samuel S. Hill has resigned as superintendent of the State Hospital for the Chronic Insane at Wernersville.

Dr. H. W. Mitchell was reëlected superintendent of the State Hospital, Warren, at the annual meeting of the trustees.

Dr. and Mrs. A. A. Eshner and Miss Juliet F. Eshner, of Philadelphia, have returned home after spending the summer abroad.

Adelaide Lewis has been made superintendent of the Memorial Hospital, Monongahela, succeeding Olive McWilliams, recently resigned.

Mrs. Margaret MacLeod has been awarded a divorce from Dr. George I. MacLeod, of Ardmore, by the Montgomery County court, at Norristown.

Dr. and Mrs. G. Oram Ring, of Philadelphia, who spent the summer motoring through Italy, France, and Switzerland, have returned to their home.

Dr. Chevalier Jackson, of Philadelphia, inventor of the bronchoscope, has been awarded the Cross of the Legion of Honor by the French Government.

The annual meeting of the American Public Health Association was held at Cincinnati, Ohio, October 17-21, with convention headquarters at the Hotel Gibson.

The Dr. Julia P. Harton Memorial Scholarship to the Woman's Medical College of Pennsylvania has been awarded to Mrs. Alice S. Bush, of Sunbury, a senior.

Dr. J. D. Hershey, of Manheim, has been appointed coroner of Lancaster County by Governor Fisher. Dr. Hershey succeeds Dr. George C. Kinard, who recently died.

Nineteen young women received their diplomas, October 18, at the forty-second annual commencement of St. Luke's Hospital Nurses and Training School, Bethlehem.

The largest number of surgical cases ever treated in one day at the Harrisburg Hospital occurred September 6, when 106 persons came for treatment between the hours of 1 and 3 o'clock.

Pearl E. Parker has been appointed superintendent of the Pottstown Hospital, succeeding Mary E. Henry, recently resigned. Miss Parker has been superintendent of the Thompson Hospital, Rhinebeck, N. Y., for the past ten years.

The United States Civil Service Commission has announced an open competitive examination for Junior Medical Officer (intern). Applications will be rated as received by the Commission at Washington, D. C., until December 30.

Dr. B. B. Vincent Lyon, of Philadelphia, has gone abroad to fulfill engagements to speak in England and France, in response to invitations from the Medical Society of London, the Royal Society of Medicine, and the University of Paris.

The *Nebraska State Medical Journal* reports that a complete semester's work for seniors was given at the University of Nebraska College of Medicine, during sixteen weeks this past summer, permitting students to graduate in February instead of June, 1928.

Hahnemann Medical College of Philadelphia opened its eightieth academic year September 26, when 60 freshmen were officially welcomed in the clinical amphitheater. The total enrollment is 464 students. Dr. J. F. Nelson was presented as the new professor of biology.

The following Philadelphians participated in the Kansas City Annual Fall Clinical Conference and the Interstate Post-Graduate Medical Association, held at Kansas City, October 17 to 21: Drs. John B. Deaver, Charles H. Frazier, David Riesman, Edward A. Strecker, Frederick J. Kalteyer, and Gabriel Tucker.

The fiftieth anniversary of the Medicolegal Society of Philadelphia was celebrated on October 25. Dr. Wm. Morton Kennedy, president, was toastmaster. Other speakers were Dr. Arthur C. Morgan, president of the State Society, Dr. Frederick S. Baldi, president of the Philadelphia County Medical Society, and Dr. Lambert Ott, the only surviving charter member of the organization.

Dr. Abraham Flexner, of the Rockefeller General Education Board, has been elected Rhodes Memorial Lecturer at Oxford for the academic year 1927-1928. The lectureship is intended to carry out the international purpose of the Rhodes will by bringing to Oxford from year to year "those individuals who are in the truest sense men and women of international authority and reputation."

The Committee on Disabled Soldiers and the Medical Aid Committee of the Philadelphia County Committee of the American Legion have approved the plan of rehabilitating tuberculous former service men by placing them on Pennsylvania State forest reserves at work suitable for restoring their health. This group will consist of men who have been discharged from hospitals as arrested cases.

The new $2,000,000 teaching hospital of the University of Pennsylvania Graduate School of Medicine opened its doors, October 23, to more than 200 patients. It is thoroughly up to date in construction and contains one floor devoted entirely to healing by sun and air. That floor has 11,000 square feet of space. When completed the hospital will contain 500 beds and take care of 175,000 outpatient visits a year.

The Leslie Dana Gold Medal, awarded annually to the person who has done most for the conservation of vision in the preceding year, has been presented to Dr. Lucien Howe, of Buffalo, N. Y. Dr. Howe was selected for this honor by the National Committee for the Prevention of Blindness in coöperation with the Missouri Association for the Blind, through whom the medal is offered annually by Leslie Dana of St. Louis.

An international symposium on feelings and emotions was held at Wittenberg College, Springfield, Ohio, October 19-22. J. McKeen Cattell of New York, author, editor, and scientist, was chosen honorary chairman of the symposium and made the inauguration address on "The Psychological Laboratory." At the same time there was a conference on chemistry and the new Chemistry-Psychology Building of the College was formally dedicated.

Dr. Caroline S. Ruth Engelhardt, neurologist and chief of Engelhardt Hospital, Philadelphia, has given $5,000 to endow a lectureship in the Department of Neurology at the Woman's Medical College of Pennsylvania. Dr. Engelhardt recently sailed for Vienna to begin intensive research work in neurology and psychiatry. She has also subscribed $1,000 toward the $1,500,000 endowment fund for a new building for the college.

Mrs Hannah Singer Berkowitz, of Philadelphia, who died September 5, devised in her will that the bulk of her estate be held in trust twenty years, after which the principal and interest shall be used in the erection of a wing to the Jewish Hospital. She also bequeathed $2,500 each to the Northeastern Orphans Home, the Downtown Hebrew Orphans Home, and the Northern Liberties Hospital to endow free beds, and $500 to the Central Talmud Torch.

The new $1,000,000 hospital of the Eagleville Sanatorium, five miles northwest of Norristown, was dedicated October 23. The ceremonies were divided in two parts, the first consisting of the eighteenth annual business meeting of the sanatorium and graduation of three nurses trained there, and the second, the dedicatory exercises themselves. Dr. Theodore B. Appel, State Secretary of Health, was the chief speaker. The capacity of the new building at Eagleville is 200 beds, and there have been 392 applications for admittance.

Jefferson Medical College of Philadelphia began its 103d year September 21, with 178 freshmen enrolled. The total enrollment is approximately 600 students, representing nearly every state in the Union and many foreign countries. College degrees are held by 101 of the freshmen. Dr. Edward A. Strecker was the principal speaker at the opening exercises held in the clinical amphitheater, following talks by Alba B. Johnson, president of the Board of Trustees, and Dr. Ross V. Patterson, dean of the faculty.

An invitation to join the 1928 Study Tour of the Travel Study Club of American Physicians, the third of its kind to be undertaken, has been extended to the members of the Medical Societies of Pennsylvania and Delaware. The time of the tour is June 30 to August 28, 1928, and the itinerary will take in Spain and Central Europe. Full information may be obtained from Dr. Richard Kovacs, 223 East 68th St., New York City, or Raymond & Whitcomb Company, 225 Fifth Ave., New York City, to whom the business management of the tour has been entrusted.

A committee has been formed to prepare a memorial to Dr. Thomas W. Salmon, professor of psychiatry at Columbia University, and the first medical director of the National Committee for Mental Hygiene, who was drowned in August while sailing on Long Island Sound. The chairman and treasurer of the committee are Dr. Frankwood E. Williams, Medical Director of the National Committee for Mental Hygiene, and Dr. Samuel W. Hamilton, Assistant Medical Director, Bloomingdale Hospital, White Plains, N. Y. The function of the committee is to consider plans proposed for a memorial and to receive funds for this purpose.

A headquarters' staff conference of practically all of the forces engaged in the war on blindness was called by the National Committee for the Prevention of Blindness and held in Chicago, October 13-15, in coöperation with the Illinois Society for the Prevention of Blindness. Every important cause of blindness or serious impairment of vision, from the hazards attending birth on through the life of the individual at school, at play, at work, and in old age, was discussed, and the methods which have been found most effective in eliminating or counteracting these hazards in recent years were described.

Colonel Robert E. Wright, a Fellow of the Royal College of Surgeons, England, and a Director of the British Medical Society, was among the recent passengers on the *S. S. Berengaria* arriving in New York. Colonel Wright was for a number of years director of the Pasteur Institute, Conoor, India, and is now Superintendent of the Ophthalmic Hospital, Madras, and Professor of Ophthalmology in the Madras Medical College. While in the States he will visit Harvard, Yale, Johns Hopkins, the Mayo Clinic, and will be the guest of a number of prominent surgeons and physicians in various cities, including Dr. G. E. deSchweinitz, of Philadelphia.

Dr. Hubley R. Owen, of Philadelphia, recently completed his twentieth year as a police surgeon, and the story of those twenty years is a narrative of the marvelous growth of a medical service that now embraces 8,000 policemen, firemen, park guards, and employees of the Electrical Bureau. His attic office on the ninth floor of City Hall has been supplanted by modern offices and clinics at 303 South Broad Street,

and thoroughly modern equipment has been installed. An ambulance is available at all times for service to policemen and their families. It answers all fires in the mercantile district and all two-alarm fires in the remainder of the city.

Dr. William H. Walsh, executive secretary of the American Hospital Association, Chicago, Ill., has announced his resignation, to take effect January 1, 1928. He is returning to his private practice of hospital consultation, with offices in New York and Chicago. At the time of the appointment of Dr. Walsh as executive secretary in 1925, the American Hospital Association was conducting its business in two rooms in rented quarters, with a staff of six people. At the present time, the Association owns its own building, has a staff of fifteen assistants, has created a reserve fund, and has just completed the most successful convention in the history of the Association.

The American Academy of Ophthalmology and Oto-Laryngology held its thirty-second annual meeting in Detroit, September 12-16, Dr. Ross Hall Skillern, of Philadelphia, presiding. In addition to the program, fifty-eight teachers gave the six hundred registrants 213 hours of instruction in fifty-eight basic subjects in the specialties. Among the instructors, Pennsylvania was represented by Drs. Geo. M. Coates, Luther C. Peter, Warren Reese, Robert Ridpath, and Gabriel Tucker, all from Philadelphia; and Dr. Edward Stieren from Pittsburgh. Dr. Luther C. Peter, of Philadelphia, will be president during 1928. Dr. H. P. Mosher, of Boston, Mass., was chosen as president-elect.

Persia's acceptance of the League of Nations' plan for the substitution of other crops for opium, announced at Geneva, in September, promises to start a vigorous movement against countries manufacturing narcotic drugs. Persia has informed the Assembly commission that the sacrifices entailed for Persia will be utterly useless unless the principle of curtailment is applied not only to the production of opium, but also to the production of the coca leaf from which cocain is derived, and to the manufacture of morphin, heroin, and cocain. It would seem that the world production of opium is at least twelve times its medical requirements, and that production cannot be reduced rapidly enough, even were China in a position to attempt reduction, to abolish the narcotic evil in this generation unless the manufacturing countries undertake a similar stand.

The Woman's Medical College of Pennsylvania began its seventy-eighth year September 28. Each of the four-year classes will accommodate forty students at present. Thirteen members have been added to the faculty. They are Dr. Helene C. Wilson, associate in pharmacology; Dr. Margaret Sumwalt, associate in physiology; Dr. Frances J. Heath, teaching fellow in obstetrics; Dr. Cecilia Riegel, instructor in physiological chemistry; Dorothy E. Bateman, Colgate research fellow in chemistry; Dr. Asta J. Witner, instructor in obstetrics; Dr. Ann C. Arthurs, instructor in clinical otolaryngology; Dr. Samuel B. Hadden, instructor in clinical neurology; Dr. Mary J. McIlvaine, instructor in clinical obstetrics; Coletta A. Bennett, assistant instructor in physiological chemistry; Dr. Clarence K. Dengler, assistant in dermatology; Joseph C. Ross, assistant in clinical medicine; and Dr. Jean Gowing, assistant in pediatrics.

The thirty-fifth annual convention of the Association of Military Surgeons of the United States was held at Carlisle, October 6-8, with 300 delegates from all over the country and a number of foreign medical officers as guests and observers. Major General Merritte W. Ireland, surgeon-general of the Army and president of the Association, officiated at the opening. On the first day the entire Association inspected a divisional medical equipment. The First Medical Regiment, located at Carlisle Barracks, paraded, and this event was followed by a barbecue and campfire and a concert by the Army Medical Band. On the second day a medical-division installation was exhibited, working from the firing line to a hospital station, and a spectacular demonstration was given showing medical services in action during an infantry battalion attack supported by the air corps and chemical warfare service. In the evening a banquet was tendered the foreign delegates. The third day the medical service of an infantry division was shown under combat conditions, and at noon a luncheon was served from field kitchens, followed by a trip to Gettysburg.

The Committee on Illegitimacy of the Council of Social Agencies of the Welfare Federation of Philadelphia has sent out a letter to the effect that the majority of physicians in the city of Philadelphia and its immediate environs occasionally have cases of illegitimate pregnancy among their patients. The committee is, therefore, circularizing all physicians in the counties of Bucks, Chester, Delaware, Montgomery, and Philadelphia so that the doctors may get in touch with the proper organizations, if they so desire, when more than two weeks' hospitalization is needed for their individual patient. There are a variety of agencies in the city that are equipped to supply prenatal and postnatal maternity home care; to secure support for children; to establish legally the paternity of the child; or if such action is desirable, to place a baby temporarily or permanently. The following organizations may be appealed to for assistance: Catholic Children's Bureau, 1706 Summer St.,—colored and white, Roman Catholic; Committee on Illegitimacy, Room 609, 311 S. Juniper St.,—colored and white, Protestant; Conference on Illegitimacy of the Bureau for Jewish Children, 330 S. Ninth St.,—Jewish.

A gift of $800,000 from Eldridge R. Johnson to establish the Eldridge R. Johnson Foundation for Research in Medical Physics at the University of Pennsylvania was announced recently. The contribution from Mr. Johnson, who formerly was president of the Victor Talking Machine Company, is one of the largest single gifts ever made to the University. With its receipt, total contributions to the University of Pennsylvania Fund's fifteen-year campaign for $45,650,000, which was inaugurated in May, 1925, have reached the $10,000,000 mark.

In making his gift to the University, Mr. Johnson stipulated that a sum not exceeding $200,000 may be expended for a building and for equipment, and the income from the balance not so expended shall be used for the "study and development of physical methods in the investigation of disease and in its cure; the study of the important physical agencies or properties such as heat, light, electricity, sound, etc., in their varied relations to the life of man, and to carry out investigations for the improvement of the instrumental applications of such agencies to medical purposes."

Some idea of the vast range of studies that will be carried on in the new Foundation may be gleaned from the fact that among the various subsidiary units called for in the plans for the Foundation, according to Dr. Penniman, are six laboratories, each of which will have a definite field of activity. These laboratories will be as follows: (a) A laboratory for studies in light and optics, including investigations relating to sunlight, mercury-quartz-lamp rays, infra-red rays, etc. Radium emanations, x-rays, and highly related topics in this field also will fall under this division. (b) A laboratory for studies of the effects of heat, including the biologic aspects and the practical bearing of heat on problems of disease and its treatment. (c) A laboratory for studies in sound and audition, including the investigation of hearing and the application of instrumental methods for improving human hearing. This laboratory also will conduct studies in the reproduction of sounds (heart-sounds and the like), and in the physical effects of sound, etc. (d) A laboratory for determination of physical measurements—for studies of

movements in the human body such as heart action, movements of the stomach and intestines, the flow of blood, the intake and output of air, etc. (e) A laboratory for photographic and cinematographic study of bodily processes and conditions. (f) A laboratory for the study of electricity in its relation to diagnosis and treatment of disease.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

EXAMINATION OF CHILDREN BY CLINICAL AND LABORATORY METHODS. By Abraham Levinson, B.S., M.D., Associate in Pediatrics, Northwestern University Medical School, etc. Second edition with 85 illustrations. St. Louis: The C. V. Mosby Company, 1927. Price, $3.50.

Any one having had the pleasure of reviewing the first edition of this book only three years ago would not be surprised that a second edition was found necessary at this time. It is indeed refreshing to read a book in which the author stresses the importance of clinical methods of diagnosis as compared with laboratory methods, as it is only too true that with the development of laboratory technic, the x-ray, etc., one is very apt to rely on some of these methods of diagnosis very largely to the exclusion of the development of "his sense of sight, hearing, and touch in order to utilize them for diagnostic purposes."

Considerable space is devoted to the methods of taking case histories and making physical examinations which, as the author well states, "are the two most important aids in the hands of the practicing physician." His reference to the fact that physicians frequently request the laboratory worker not only to make a laboratory test, but also to interpret it, is undoubtedly correct, and his unfavorable criticism of this fact is certainly justified. There would not be nearly so much objection to this if the laboratory man were furnished with a brief clinical history of the case, thus carrying out the real object of this book; viz., the intelligent combination of both clinical and laboratory methods.

One could scarcely conceive of more practical material being compressed into a book of less than two hundred pages than the author has accomplished in this second edition, and any one reading it cannot help but be stimulated (1) to improve his clinical methods of diagnosis, including the careful taking of a case history and the making of a thorough physical examination; (2) to make every use of laboratory methods as aids to diagnosis rather than let them supplant clinical methods, and (3) to be able intelligently to combine the two, based upon one's personal and individual interpretation of each.

OSLER'S MODERN MEDICINE, Volume IV. By Sir William Osler, Bart., M.D., F.R.S. Reëdited by Thomas McCrae, M.D., Professor of Medicine in Jefferson Medical College, Philadelphia; assisted by Elmer H. Funk, M.D., Assistant Professor of Medicine, Jefferson Medical College. Philadelphia: Lea & Febiger. Price $9.

This volume treats of diseases of the respiratory and circulatory systems. The physiology of respiration is fully and satisfactorily covered in Chapter 1. The various diseases of the lungs are presented in a concise and practical manner, with the exception of tuberculosis and lobar pneumonia, which are classed as bacterial diseases in Volume 1. It is a question if this is not confusing to most physicians, as they would more than likely look for these subjects under respiratory diseases.

In the treatment of bronchial asthma, epinephrin is given as the one valuable drug, but it is emphasized that the treatment of bronchial asthma is nonspecific and it is important to find the cause. Good illustrations help to make clear the many diseases considered.

Under diseases of the circulatory system, the chapter on "General Considerations in Cardiovascular Disease" is well worthy of study. The illustrations in this part of the book are also illuminating. There is also the opportunity of learning the recent advances in cardiology. The last chapter on "Diseases of the Lymphatic System" is more complete than in most textbooks.

The contributors to this volume are a sufficient guarantee to place this book with the three volumes already published.

CLINICAL NEUROLOGY FOR PRACTITIONERS OF MEDICINE AND MEDICAL STUDENTS. Based largely upon the book by Prof. Hans Curschmann, Rostock, Germany. A free translation with changes and additions by Edward A. Strecker, M.D., Professor of Neurology, Jefferson Medical College; and Milton K. Meyers, M.D., Neurologist, St. Agnes Hospital. Philadelphia: P. Blakiston's Sons & Co.

A most excellent, withal brief, clinical exposition of neurology. The concise and logical treatment of the subject, and the refreshing lack of pedantic verbosity, should make this manual a welcome textbook for the medical student and a valuable addition to the library of the general practitioner, who will find a clear presentation of the clinical manifestations of pathologic processes of the nervous system and their relation to various other clinical manifestations in other organs and mechanisms of the body.

The student will soon discover that in the multiplicity of details of the anatomy and physiology of the nervous system there are fundamental facts which are essential to a correct diagnosis of disease in different regions of the body.

Furthermore, the changes which the book has undergone at the hands of Prof. Strecker and Dr. Meyers have enhanced its value to those for whom it is primarily intended, and have made it a commendable book.

THE ANATOMY OF THE NERVOUS SYSTEM. From the standpoint of development and function. By Stephen W. Ranson, M.D., Ph.D., Professor of Neuro-anatomy, Washington University, Medical School, St. Louis, Mo. Third Edition, Revised. Octavo volume of 425 pages with 284 illustrations, some of them in colors. Philadelphia and London: W. B. Saunders Company, 1927. Cloth, $6.50 net.

The third edition of this work contains new topics which did not appear in previous editions, as well as new cuts, and is a very good book for students, teachers, instructors of neuro-anatomy, and laboratory workers. It is well written, well illustrated, and sufficient in detail to meet the needs of these workers.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE STOMACH, with an introduction to Practical Gastro-Enterology. By Martin E. Rehfuss, M.D., Assistant Professor of Medicine, Jefferson Medical College. 519 illustrations, some in colors. Published by W. B. Saunders Company, Philadelphia, 1927. Price, cloth, $12, net.

This work represents the best study of the subject that it has been our fortune to review. The author's approach to the subject is that of the conservative mind which takes nothing for granted, demands proof before accepting statements made by others, but in which concession is made when such findings are proved. Dr. Rehfuss possesses the judicial mind, and this point is evident, no matter where one reads a chapter in the book. Some of the conditions, such as aërophagia and chronic gastric dilation, are treated in an unusually clear and succinct manner. The entire book is easy to read, informing in its message, and deserves a very large circulation.

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LIVER EXTRACT IN THE TOXEMIAS OF PREGNANCY*†

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The medical profession has viewed with interest but relatively little benefit the varying oscillations in the treatment of the eclamptic and preëclamptic woman. In one series, treatment is based on masterful inactivity, and we see Mother Nature scoring a fair percentage of successes; while in the other, radical surgery saves those who are still able to stand the shock of a major surgical operation or the precipitation of labor by bougie, bag, etc., at a time when the patient's greatest need is rest and conservation of energy, thereby avoiding an increase in the already present toxemia and giving the organs of neutralization and elimination an opportunity to restore the balance.

Our personal experience, as well as a study of the literature, has convinced us that the above-outlined methods leave much to be desired. We must definitely neutralize or destroy this unknown toxin if we wish to increase still further the value of prenatal care, thereby reducing the frequency of eclampsia and permitting the occasional inevitably toxic woman to continue her pregnancy.

We hope time and increased experience will enable us to furnish satisfactory clinical and pathologic classifications, as well as a preconceptional prognostic index which will entirely prevent, or at least predict, the occurrence of even the milder toxemias. For the present we are content to divide all cases pathologically into the liver and nephritic groups, according to the organ which bears the brunt of the toxin, realizing that this classification is subject to the changes increasing experience may suggest.

From a clinical point of view we have considered as evidence of toxemia the following, listed in the order of their importance: (1) a systolic blood pressure of 140 mm. or above, or any sudden rise from the patient's normal; (2) albumin, casts, or both, in the urine; (3) headaches with sudden onset; (4) epigastric pain; (5) edema (of toxic origin); (6) diminished urinary output; (7) ocular symptoms; (8) eye-ground findings; (9) nervous irritability; (10) abnormal blood-chemistry findings (of little aid unless accompanied by symptoms). These clinical symptoms may require an entire rearrangement: elimination of some, addition of others now unknown to us, or the discovery in the blood or elsewhere of the specific toxin, and a method of measuring its quantity and virulence.

An increasing suspicion that the liver necrosis found at autopsy had more than a passing significance, a feeling that the detoxicating function of the liver was essential to the pregnant woman, and a hope that this neutralizing substance, whatever it may be, could be supplied led us to try the use of liver extract in the treatment of the eclamptic and preëclamptic woman. Our series now consists of 107 preëclamptic cases divided roughly into mild, moderate, and severe, with 15 cases of eclampsia (no eclamptic case had heparmone prior to convulsions).

This arbitrary classification seemed necessary for a study and comparison of any large group in order to determine what prominent symptom could be considered as indicating the presence of a toxemia; the lowest point at which it would be universally accepted as an index of an existing toxemia; and the maximum consistent with the safety of the individual. No individual symptom meets all the requirements, nor could we find a readily workable group which would do so.

Occasionally in fulminating toxemia the patient will be free of albumin and casts a few days before a fatal attack of convulsions, and in turn, before beginning the use of heparmone, we have seen fatal convulsions occur in a patient on preëclamptic treatment with a blood pressure never exceeding 135 mm. The same inconsistency exists throughout the entire list of symptoms, each has its significance, and, properly interpreted, forms a part of the diagnostic alphabet which spells toxemia of pregnancy.

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*Read before the General Meeting of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

We feel that blood pressure furnishes the best dividing line, and while any sudden rise of blood pressure in the pregnant woman should excite suspicion, we have arbitrarily eliminated from this report all those showing a blood pressure below 140 mm. Of those eliminated many were treated, practically none showed an advancing pressure, all were free from convulsions and were permitted to continue their pregnancy.

While individual response to treatment has caused many modifications, the following classification and treatment is largely followed.

1. Mild Cases.
   A. Systolic blood pressure not over 150 mm.
   B. Urine usually is free of albumin, or may contain a slight amount.
   C. Mild subjective and objective symptoms are present.
   D. These cases are almost all of the hepatic type.
2. Moderate cases.
   A. Systolic blood pressure from 150 mm. to 175 mm.
   B. Urine usually contains moderate amount of albumin or is free from the same.
   C. Moderate subjective and objective symptoms are present.
   D. These cases are mostly of the hepatic type, but some are of the nephritic type.
3. Severe cases.
   A. Systolic blood pressure over 175 mm.
   B. Urine usually contains moderate to large amount of albumin, but occasionally is free.
   C. Symptoms are usually pronounced.
   D. These cases are mostly of the nephritic type, but some are hepatic or a combination of both.

Thoroughly to test the efficiency of heparmone we permitted all patients to continue their usual diet, and limited their activities only to the point consistent with pregnancy in the normal woman.

We wish to emphasize the objections made to concentration of the toxins by sweating or purging; to the overloading of the tissues with fluids, such as normal salt solution or glucose (unless to combat acidosis), with the cardiac dilatation which may occur as a result of such intravenous injections; and to the use of anesthesia with its concomitant increase of liver necrosis.

Heparmone used to the point of neutralization was always followed by improvement, and left but little to be desired. Hence the infrequency of symptomatic or supplementary medication, all of which is reported in the individual cases which follow.

TREATMENT

Mild cases of preëclampsia, with systolic blood pressure up to 150 mm.
1. Ten c.c. of heparmone intramuscularly once a week usually suffices.
2. Rest in bed is not necessary.
3. Usual diet of pregnancy is continued.
4. After several injections, the blood pressure usually remains normal.
5. Urine is freed of albumin or has only a faint trace.
6. All symptoms are usually relieved after first injection.

Moderate cases, with systolic blood pressure from 150 to 175 mm.
1. Ten c.c. of heparmone intramuscularly every other day is usually necessary.
2. Rest in bed is not necessary.
3 Usual diet of pregnancy is continued.
4. Blood-pressure level gradually comes down within normal limits.
5. Total urine increases, and total albumin diminishes each twenty-four hours.
6. Symptoms usually clear up.

Severe cases (usually nephritic type), with systolic blood pressure over 175 mm.
1. Ten c.c. of heparmone intramuscularly two or three tin .s daily, according to severity of case.
2. Semi rest in bed until blood pressure is below 175 mm. is advised.
3. Usual diet of pregnancy is continued.
4. Blood pressure may or may not go down.
5. Subjective symptoms are relieved as a whole.

Eclampsia.
1. Twenty c.c. of heparmone intravenously as soon as patient is seen.
2. Blood pressure should be taken every fifteen minutes.
3. Ten to twenty c.c. of heparmone is given intravenously every fifteen to thirty minutes, as indicated.
4. Let patient go into labor spontaneously.
5. Cesarean operation or induction of labor not necessary.
6. Urinary output increases in this form of treatment.
7. No intravenous glucose or saline solution is found necessary.
8. Morphin sometimes aids in keeping patient quiet, but is not necessary.
9. Fifteen c.c. of heparmone intramuscularly should be given three times daily for five or six days after convulsions have ceased. Otherwise they may occur again.
10. Fluids may be taken by mouth when patient is conscious.

Many cases when first seen are in the severe group, and are so treated, afterward dropping to moderately severe or even mild toxemias, when they are treated accordingly. While the shifting from group to group is largely from the severe to the mild, an occasional case may be the reverse, but none have developed eclampsia.

We have thought best to report in detail the following cases of eclampsia, though small in number. The ready control of convulsions, marked reduction of blood pressure in the true uncomplicated eclamptic, rapidity with which coma has disappeared, hourly increase of urinary output (self-retaining catheter always inserted), and equally marked improvement in all other symptoms has enabled the eclamptic to continue until the beginning of labor. This has so encouraged us that we hope to continue both our clinical and pathologic work until we can report

a series of 1,000 cases from which a proper appraisement of the value of heparmone can be made.

Case Reports

Case 1. Mrs. O. S., aged 19, para 2, negress. Gestation forty weeks. Entered Magee Hospital December 28, 1926, having attended the prenatal clinic October 20, November 10, and December 10, 1926. At these visits the systolic pressure did not exceed 124 mm. The urine was negative for casts and albumin. No toxic symptoms were present. On admission to the hospital, patient complained of a violent headache, epigastric pain, and pain over the uterus. On inspection, patient seemed lethargic and listless. There was very slight edema present over face, hands, and lower extremities. The blood pressure was 186/134 mm., pulse 120, temperature 99.4°F. The eye grounds were negative. At 8 a.m. the patient had a typical eclamptic convulsion lasting five minutes. Ten c.c. of the liver extract was given intravenously, and this was repeated every half-hour for nine doses. There were three typical eclamptic convulsions at intervals of thirty to forty minutes. The blood pressure dropped to 144/108 mm. The patient was perfectly rational five hours after the first convulsion, with a corresponding improvement in all other symptoms.

This patient had a partial premature separation of the placenta, and the fetus was stillborn. Birth occurred spontaneously four hours after the first convulsion. The urine became albumin- and cast-free within one week, and the blood pressure remained around 120 mm. No treatment except liver extract was used in this case.

Case 2. Mrs. E. J., aged 16, primipara, negress. Gestation thirty-six weeks. Entered Magee Hospital January 6, 1927, at 8 a.m., with a history of awakening at 3 a.m. with a terrific headache followed immediately by convulsions. Her mother stated she had between fifteen and twenty convulsions before admission. On admission to the hospital, patient was in a semicomatose delirious state, with slight edema of the lower extremities, blood pressure 168/90 mm., pulse 140, and temperature 102.2°. The bladder contained ten ounces of turbid urine, with six grams of albumin and a moderate amount of casts. The patient had three convulsions after admission.

A total of 85 c.c. of liver extract was given intravenously in 10-c.c. and 15-c.c. doses at half-hour intervals between 9 a.m. and 2 p.m. Patient became conscious, output of urine increased to two ounces per hour, and the symptoms seemed to have cleared up. The blood pressure dropped to 138/84 mm., she was free of symptoms until 8 p.m., when the blood pressure rose to 166/90 mm., and the patient had another convulsion. Twenty c.c. of the extract was given intravenously, and the blood pressure dropped to 148/90 mm. No more convulsions occurred.

On January 7, 1927, the patient was delivered spontaneously at 4 a.m., the fetus dying twenty-four hours later in convulsions. (Autopsy on the fetus showed nothing of note in liver, brain, etc.) Patient seemed to be rather irrational at times, and finally developed a toxic psychosis. When she left the hospital the urine was free of albumin and casts, and the blood pressure was within normal limits.

Case 3. Mrs. W. W., primipara, aged 28, white. Gestation twenty-six weeks. Referred by Drs. C. L. Campbell and H. S. Wallace. Entered the Presbyterian Hospital January 9, 1927, at 9 p.m. in deep coma. Patient had complained of intense headache and epigastric pain on morning of admission. First convulsion occurred at her home at 3 p.m., followed by three more. She was then sent to the hospital by her physicians, and had one convulsion in the ambulance and another on admission. The eye grounds were negative (Dr. Koch). Patient had not voided for twelve hours previous to admission, and bladder contained 240 c.c. of reddish-black urine, containing sixteen grams of albumin and a large quantity of red blood cells and casts. Slight edema of the hands, face, and lower extremities was present. The pulse was irregular and around 140, blood pressure 196/130 mm., respirations of Cheyne-Stokes' type, and cyanosis was present.

Twenty c.c. of the extract was given intravenously, and 10 c.c. every fifteen minutes thereafter. A total of 135 c.c. was given in twelve hours. The patient's mind cleared up six hours after treatment was started. The kidney secretion rose to a total of 2,430 c.c. during the first twenty-four hours in the hospital. Fluids were taken by mouth, and her condition greatly improved. Blood pressure dropped to 128/74 mm. within twelve hours, and the urine became negative for albumin and casts eight days after treatment was started, the blood pressure remaining around 120/70 mm.

Fetal life continued for eighteen days, after which heart sounds were not heard, and a macerated fetus was delivered February 12, 1927. Less than one-third of the placenta was functioning, the remaining portion having been occluded by infarcts.

Case 4. Mrs. W. F., aged 21, primipara, white, clinic case. Gestation thirty-eight weeks. Entered Magee Hospital January 24, 1927, in labor. Patient first appeared at clinic on January 19, 1927, with a blood pressure of 132/90 mm. Urine was free of casts and albumin. The patient was delivered spontaneously at 7.50 a.m., January 25th, after a labor of seven hours and fifty minutes. In the afternoon she developed an intense headache, but did not report it until after her sight became blurred at 7.30 p.m. Blood pressure at this time was 196/98 mm. Fifteen c.c. of liver extract was given intravenously. Blood pressure then dropped to 124/76 mm., but forty-five minutes later she had a typical eclamptic convulsion. The urine contained four grams of albumin and many granular casts. Pulse rate was 144, temperature 100.4°. The blood pressure during the next twenty-four hours varied from 104/48 mm. to 130/70 mm.. it being controlled by 185 c.c. of the liver extract during that period, given intravenously in 10-c.c. to 20-c.c. doses. The patient had eighteen typical eclamptic convulsions, the last occurring January 26 at 6 p.m. She began to take fluids by mouth two hours later, and during the next twenty-four hours 6,400 c.c. of water was taken, with an output of 6,325 c.c. The blood pressure remained around 128/70 mm. until discharged. On January 26 at 9 a.m. and 6 p.m. one-quarter grain of morphin sulphate was given.

Case 5. Primipara aged 21. Gestation thirty-eight weeks. At prenatal clinic patient was symptomless, blood pressure not exceeding 118/76 mm. Urine was free of albumin and casts. She entered the Hospital February 15, 1927, at 3 p.m., in labor and complaining of headache. Just before delivery of the head, patient had an eclamptic convulsion. Blood pressure was 142/106 mm. A half-hour later blood pressure was 168/104 mm., and a second convulsion occurred. An initial dose of 20 c.c. of liver extract was given intravenously. Two more convulsions occurred at intervals

SUMMARY OF CASES

Hosp. No.	Age	Para	Type*	Blood Pressure		Urine†				Symptoms‡		Class
						Before		After				
				Before	After	A.	C.	A.	C.	Obj.	Sub.	
1363	26	4	N	175/90	140/90	+	—	—	—	R	R	Moderate
1878	19	1	H	145/84	104/56	—	—	—	—	R	R	Mild
1848	26	4	H	150/70	112/52	—	—	—	—	R	R	Mild
1858	18	1	H	145/85	110/60	—	—	—	—	R	R	Mild
1558	20	1	H	146/90	120/70	+	—	—	—	R	R	Mild
1623	21	3	H	142/78	114/75	—	—	—	—	R	R	Mild
1280	32	4	H	148/102	112/90	—	—	—	—	R	R	Mild
1360	18	1	H	144/76	128/78	+	+	—	—	R	R	Mild
1518	36	4	N	170/90	124/80	+	+	+	—	S	R	Moderate
1270	21	2	H	144/82	127/80	+	—	—	—	R	R	Mild
1928	27	8	N	162/96	140/82	+	+	+	+	R	S	Moderate
1640	39	7	N	145/90	145/90	+	+	+	—	S	R	Mild
1599	26	3	H	150/86	122/75	—	—	—	—	R	R	Moderate
1970	38	7	H	145/80	126/70	—	—	—	—	R	R	Mild
1512	27	2	H	150/100	125/80	+	+	—	—	R	R	Moderate
1457	18	1	H	164/98	132/78	—	—	—	—	R	R	Mild
1498	43	10	N	148/98	120/70	+	+	—	—	R	R	Mild
1444	28	4	H	150/90	126/64	—	—	—	—	R	R	Mild
866	37	8	H	140/76	108/66	+	—	—	—	R	R	Mild
1273	16	1	N	184/60	150/96	+	+	+	+	R	R	Severe
1329	30	1	H	150/84	110/65	+	—	—	—	R	R	Moderate
1230	29	6	H	150/92	128/62	+	—	—	—	R	R	Moderate
1231	27	2	N	182/120	120/95	+	+	+	+	S	R	Severe
1331	32	5	N	262/130	178/110	+	+	+	+	S	R	Severe
1207	31	1	H	145/76	120/58	—	—	—	—	R	R	Mild
1171	31	4	H	140/75	110/68	+	—	—	—	R	R	Mild
1141	28	2	H	145/82	122/70	—	—	—	—	R	R	Mild
1143	17	1	H	174/82	128/62	+	+	—	—	R	R	Moderate
1121	21	1	H	164/114	116/82	+	—	—	—	R	R	Moderate
1208	24	1	H	142/112	108/78	—	—	—	—	R	R	Mild
1018	26	1	N	150/98	150/98	+	+	+	—	S	R	Moderate
1809	26	3	N	168/114	160/106	+	+	+	+	S	S	Moderate
1979	32	2	H	200/140	150/98	+	+	—	—	R	R	Severe
1952	39	11	N	152/100	132/72	+	+	+	—	S	R	Moderate
1866	23	1	N	162/100	148/86	+	+	+	—	S	R	Moderate
1981	39	5	N	192/114	132/70	+	+	—	—	R	R	Severe
1629	17	2	N	220/138	168/106	+	+	+	—	S	R	Severe
1784	30	1	N	174/86	144/86	+	+	+	—	S	R	Moderate
1733	21	1	H	142/80	132/80	+	—	—	—	R	R	Mild
2018	19	1	H	140/98	115/96	—	—	—	—	R	R	Mild
2102	34	4	H	155/102	110/74	—	—	—	—	R	R	Moderate
2030	27	1	H	146/82	124/76	—	—	—	—	R	R	Mild
2118	31	1	H	140/60	130/78	—	—	—	—	R	R	Mild
2142	16	2	H	145/98	128/72	—	—	—	—	R	R	Mild
2573	28	5	N	196/110	128/86	+	+	+	—	R	R	Severe
618	22	3	H	152/96	132/74	+	—	—	—	R	R	Moderate
622	26	1	H	140/84	122/76	+	—	—	—	R	R	Mild
665	16	1	H	156/70	132/72	—	—	—	—	R	R	Mild
631	24	3	H	160/90	138/78	+	—	—	—	R	R	Moderate
932	37	4	H	155/94	128/78	—	—	—	—	R	R	Moderate
955	31	5	N	200/130	200/128	+	+	+	+	S	R	Severe
941	29	2	H	170/98	128/68	+	—	—	—	R	R	Moderate
922	27	2	H	142/92	120/76		—	—	—	R	R	Mild
479	35	1	H	156/80	134/72		—	—	—	R	R	Moderate
466	40	3	N	220/100	152/102				—	S	R	Severe
483	27	4	N	180/105	162/90				—	S	R	Severe
554	26	4	H	182/102	110/70		—	—	—	R	R	Severe
578	29	4	H	172/102	120/76		—	—	—	R	R	Moderate
145	39	10	N	232/128	160/110				—	S	R	Severe
68	37	6	N	178/96	144/92				—	S	R	Severe
150	25	2	H	155/86	122/68	—	—	—	—	R	R	Moderate
192	42	2	H	172/90	172/78		—	—	—	R	R	Moderate
251	31	3	H	155/70	128/78		—	—	—	R	R	Moderate
413	18	4	H	145/86	112/72	—	—	—	—	R	R	Mild
424	24	1	H	144/86	98/50	—	—	—	—	R	R	Mild
1093	23	2	H	182/84	114/64	—	—	—	—	R	R	Severe

* N, nephritic.
H, hepatic.

† A, albumin.
C, casts.

‡ R, relieved.
S, stationary.

Hosp. No.	Age	Para	Type*	Blood Pressure		Urine†				Symptoms‡		Class
						Before		After				
				Before	After	A.	C.	A.	C.	Obj.	Sub.	
973	21	1	H	146/86	128/62	—	—	—	—	R	R	Mild
985	21	1	H	140/90	122/80	—	—	—	—	R	R	Mild
1121	24	1	H	140/90	130/80	—	—	—	—	R	R	Mild
943	23	1	H	148/82	128/78	—	—	—	—	R	R	Mild
1018	38	10	N	172/90	140/98				—	S	R	Moderate
1083	38	8	H	156/86	132/68	—	—	—	—	R	R	Moderate
962	28	4	N	210/130	186/130				—	S	R	Severe
1127	30	6	H	178/100	128/80		—	—	—	R	R	Severe
1011	16	1	N	192/118	144/98				—	S	R	Severe
5430	25	3	H	146/84	116/68	—	—	—	—	R	R	Mild
5285	39	10	N	162/90	150/86		—		—	S	R	Moderate
5567	23	1	H	154/90	122/64	—	—	—	—	R	R	Moderate
5556	23	3	H	145/90	132/86	+	—	—	—	R	R	Moderate
5516	28	8	H	164/102	126/74	—	—	—	—	R	R	Moderate
5557	28	4	H	156/92	122/72	—	—	—	—	R	R	Moderate
5703	30	4	H	162/104	130/90	—	—	—	—	R	R	Moderate
5572	22	6	N	164/92	124/94	+	+	+	—	S	R	Moderate
5635	17	1	H	145/84	112/64	—	—	—	—	R	R	Mild
5672	27	7	H	155/85	136/80	—	—	—	—	R	R	Moderate
4673	39	11	N	152/99	152/96	+	+	+	+	S	R	Moderate
5899	27	3	H	155/95	122/74	—	—	—	—	R	R	Moderate
5833	35	8	N	182/108	140/90	+	+	+	—	S	R	Severe
5846	15	1	H	154/78	132/76	+	—	—	—	R	R	Moderate
5835	21	3	H	158/94	118/72	+	—	—	—	R	R	Moderate
7009	33	13	N	175/172	170/104	+	+	+	—	S	R	Severe
7083	31	8	N	232/108	220/108	+	+	+	+	S	R	Severe
994	29	2	H	142/80	112/72	+	—	—	—	R	R	Mild
UMD	21	1	H	114/72	124/70	+	—	—	—	R	R	Mild
UMD	22	1	H	164/90	130/84	—	—	—	—	R	R	Moderate
UMD	28	4	H	150/84	132/78	—	—	—	—	R	R	Moderate
UMD	24	1	H	145/80	118/64	—	—	—	—	R	R	Mild
UMD	17	1	H	150/76	120/68	—	—	—	—	R	R	Moderate
UMD	27	4	H	152/90	122/72	—	—	—	—	R	R	Moderate
UMD	31	4	N	204/114	186/112	+	+	+	+	S	R	Severe
UMD	40	4	H	148/62	118/62	+	—	—	—	R	R	Mild
UMD	31	4	H	142/78	120/64	—	—	—	—	R	R	Mild
UMD	18	1	H	150/100	128/80	—	—	—	—	R	R	Moderate
UMD	40	8	N	198/104	178/94	+	—	+	—	S	R	Severe

* N, nephritic. H, hepatic.

† A, albumin. C, casts.

‡ R, relieved. S, stationary.

of thirty minutes. Intravenous injections of 10 c.c. to 15 c.c. were given every fifteen to thirty minutes until the blood pressure and symptoms improved. The intervals between injections were then increased. A total of 115 c.c. was used during the first twelve-hour period. The urine contained eight grams of albumin, casts, and red blood cells. The eye grounds were negative, temperature after first convulsion 101°, pulse 122. The blood pressure dropped to around 132/80 mm., consciousness was regained in four hours, the urine contained less albumin, and in ten days it was free of casts and contained only a trace of albumin.

CASE 6. Para 5, aged 27. Gestation forty weeks or more. Entered Magee Hospital February 18, 1927. During prenatal care she presented no toxic symptoms, blood pressure did not exceed 115/68 mm., and urine was free of albumin and casts. She entered the hospital, having carried the fetus beyond the expected date of delivery, with edema of feet, blood pressure 134/74 mm., but no other symptoms. February 24th (six days later), the patient reported she had had a severe headache and slight epigastric pain all night. At 7.30 a.m. she had an eclamptic convulsion. Blood pressure then was 158/120 mm. While taking blood chemistry another convulsion occurred. Twenty c.c. of liver extract was given. The blood pressure dropped to 128/110 mm., after which it varied from 110 mm. to 128 mm. During the twenty-four hours following the first convulsion, a total of 115 c.c. of liver extract was given in divided doses. Patient went into labor the following day, and was delivered of a living child weighing 5,040 grams, low forceps being necessary but no anesthesia. Urine contained six grams of albumin, casts, and red blood cells. Four days later the urine was free of casts and contained only a trace of albumin. Temperature 99°, pulse 100, eye grounds negative during convulsions. A quarter grain of morphin sulphate was given immediately after the first convulsion.

CASE 7. Mrs. E. P., aged 18, primipara, white. Gestation thirty-eight weeks. At 8 p.m. February 20, 1927, patient presented generalized edema, dyspnea, blood pressure 174/106 mm., temperature 98.4°, pulse 120, and aortic and mitral insufficiency with cardiac decompensation. Symptoms became more pronounced the following two days and at 10.15 p.m. February 22d, a convulsion was recorded. Blood pressure 198/0 mm. at 2.30 a.m., February 22d, morphin sulphate gr. ¼ was given. The membranes were ruptured by the attending physician to induce labor, and patient was delivered under ether anesthesia, by low forceps, at 10.18 a.m. February 23d.

Urine during this time boiled solid with albumin, and contained casts. After delivery, blood pressure was 126/0 mm., and the patient presented a picture of shock. February 24th she was delirious, blood pressure 188/58 mm., urinary output for preceding twenty-four hours 700 c.c., edema increasing, and patient was in a semicomatose condition. February 25th a convulsion occurred at 10.20 a.m. Patient sank into a deep coma, blood pressure above 300/0 mm., axillary temperature 105.6°, pulse 140, Cheyne-Stokes respirations. One hour and forty-five minutes later, without treatment, the blood pressure dropped to 114/0 mm.

February 25th at 1.30 p.m. we saw the patient for the first time, and expressed the opinion that she was in a moribund condition and hopeless regardless of the treatment used. We did, however, give her 30 c.c. of liver extract, and her blood pressure remained around 80 mm. until death at 5.30 p.m. the same day.

CASE 8. Mrs. E. K., aged 27, white, para 5. Forty weeks' gestation. Entered Magee Hospital February 24, 1927, at 8.30 a.m. Blood pressure at her clinic visits had not exceeded 110 mm., and urine had contained no albumin. Blood pressure on entrance to hospital was 140/90 mm. Blood chemistry was taken, and a convulsion occurred, two more immediately following. Twenty c.c. heparmone was given intravenously. Blood pressure dropped to 128/110 mm., and was kept there until patient recovered from the attacks. One hundred and ten c.c. heparmone was given in the following ten hours, after convulsions occurred, in doses of 20 c.c., all given intravenously. No convulsions occurred after treatment was started. Urine, on entrance to hospital, contained six grams of albumin, casts, and red blood cells. Eye grounds were negative. Blood chemistry showed uric acid 6.1. Urinary output after treatment was started was from one half to two ounces per hour. Coma lasted only one and a half hours. Temperature was normal, pulse 100, and respirations 42 at onset of convulsions.

Patient was delivered of a normal female infant twenty-two hours after convulsions started, with a four-hour normal labor by means of low forceps for fetal distress (heart sounds 90). No anesthesia was given. No other treatment was used in this case. Patient left the hospital sixteen days after entrance, with normal blood pressure and negative urinary findings. Three convulsions occurred in this case. This patient gave a history of convulsions at the time of her second delivery.

CASE 9. Mrs. E. S., aged 32, white, para 2. Gestation thirty-six weeks. Entered Magee Hospital March 7, 1927, at 3 p.m. Referred by a physician on account of high blood pressure. Patient was extremely nervous, with severe headaches and epigastric pain, but had no edema. A convulsion occurred immediately. Blood pressure was 188/130 mm. Urine contained four grams of albumin, casts, and red blood cells. Twenty c.c. heparmone was given intravenously. Another convulsion occurred, and blood pressure was kept down around 150 mm. with 120 c.c. of heparmone in 10- to 20-c.c. doses intravenously during a period of seven hours. Urinary output increased to one ounce per hour, and the total amount of albumin gradually diminished until it was negative on the tenth day. On the second day after the convulsions occurred the patient was delivered spontaneously, without anesthesia, of a normal premature infant. The patient left the hospital on the seventeenth day, free of objective and subjective symptoms except for a blood pressure of 148/92 mm. This patient had two convulsions. Morphin sulphate gr. ¼ was used when she was in labor.

CASE 10. Mrs. E. H., aged 39, white, para 10. Gestation forty weeks. Entered Magee Hospital April 22, 1927, at 10.30 a.m., in convulsions. Patient had attended our prenatal clinic, but refused any sort of treatment. She had had two convulsions before entrance to hospital. On entrance, blood pressure was 232/138 mm. Urine contained nine grams of albumin, casts, and red blood cells. Temperature 98.2°, pulse 140, and respirations 32. Blood chemistry was normal, except sugar 181 and co_2 combining power 21.8. Twenty c.c. heparmone was given intravenously every 15 to 30 minutes until 110 c.c. had been given in twenty-four hours. One convulsion occurred shortly after admission, and a mild one thirty hours later during the spontaneous delivery of a normal male infant without an anesthetic. Coma disappeared within one hour after entrance to hospital but patient developed a psychosis lasting eight days. After treatment was started, the systolic blood pressure was kept down around 175 mm. for three days, and at 128 mm. for the rest of the period. Four days after entrance to hospital the urine contained only a trace of albumin, and remained the same until the patient left the hospital after a seventeen-day sojourn. This patient had five convulsions.

CASE 11. Mrs. I. K., aged 21, white, para 1. Gestation thirty-eight weeks. Entered Magee Hospital April 27, 1927, at 1 p.m. in labor, complaining of headache, epigastric pain, and blurred vision. A convulsion occurred almost immediately. Blood pressure was 158/100 mm., temperature 98.4°, pulse 160, respirations 28. Urine contained three grams of albumin and a few casts. Eye grounds showed marked edema of papillæ. Blood chemistry was normal except that the nonprotein nitrogen was 39.9. Twenty c.c. heparmone was given intravenously, and 10 c.c. repeated every fifteen to thirty minutes until 80 c.c. was given in five hours. The blood pressure remained around 130 mm., the urinary output increased, and the albumin diminished. Eighteen hours later delivery of a normal male infant was accomplished by means of low forceps for fetal distress. Patient had a mild puerperal infection (endometritis), and signed release from hospital on her fourteenth day. At this time the blood pressure was 110/70 mm., and the urine contained only a trace of albumin.

CASE 12. Mrs. M. S., aged 28, white, para 2. Gestation forty weeks. Entered Magee Hospital May 29, 1927, at 1.30 p. m. She had had three convulsions, and was in coma. Was sent to hospital by her physician. On entrance, her blood pressure was 228/126 mm. The urine contained six grams of albumin, casts, and red blood cells. Temperature 98.4°, pulse 120, respirations 30, no edema. Blood chemistry was normal except uric acid 8, and nonprotein nitrogen 66. Eye grounds showed some papillary edema. Twenty c.c. heparmone was given intravenously and repeated every fifteen to thirty minutes until 220 c.c. had been given in about twenty-four hours. Two mild convulsions occurred shortly after entrance to hospital. Patient regained consciousness in one hour and fifteen minutes, and blood pressure was kept around 120 for the rest of the period in hospital. Urinary output increased to nearly two ounces per hour.

Patient was delivered spontaneously two days later of a stillborn female infant (cause unknown except toxemia). Patient left hospital, after a sixteen-day sojourn, with a blood pressure of 120/72 mm. and

urine containing only a trace of albumin. This patient had five convulsions.

Case 13. Mrs. M. H., aged 16, white, para 1. Gestation forty weeks. Entered hospital in labor June 20, 1927, at 1 p.m. Blood pressure 120/75 mm. One hour later patient had a severe headache and epigastric pain. Blood pressure rose to 158/90 mm., and a convulsion occurred. Temperature 99°, pulse 120, respirations 30; no edema. Urine contained six grams of albumin and a few casts. Blood chemistry normal, eye grounds normal. Twenty c.c. heparmone was given intravenously, and 10 c.c. repeated every thirty minutes for six doses. Blood pressure dropped to 120/70 mm. and remained there until discharge. This patient did not have coma. Urinary output increased, and albumin diminished rapidly. Four hours after entrance to hospital, patient was delivered by low forceps for fetal distress, of a normal male infant. She left, after a thirteen-day sojourn, with a normal blood pressure and urine. A four-plus Wassermann had been treated during pregnancy. This patient had two convulsions.

Case 14. Miss G. M., aged 22, white, para 1. Gestation thirty-nine weeks. Entered Presbyterian Hospital June 19, 1927, at 5.45 a.m. Patient was in a comatose condition and in labor. There were three convulsions before she entered the hospital. Blood pressure on admission was 152/110 mm. No edema was present. Blood chemistry showed nothing of note. Eye grounds were negative (Dr. Koch). Urine contained four and one-half grams of albumin, casts, and red blood cells. Twenty c.c. heparmone was given intravenously, and repeated every fifteen to thirty minutes until 150 c.c. had been given in seventeen hours. Patient had two convulsions shortly after entering hospital. Blood pressure then dropped to around 135 mm., and urinary output increased. Patient came out of coma after two and one-half hours, and was delivered of normal twins at 11 p.m., the first being a spontaneous delivery and the second by version extraction. Patient left the hospital after an eighteen-day sojourn, with negative urine, and blood pressure 130/80 mm. This patient had five convulsions. Morphin was used during labor.

Case 15. Mrs. J. J., aged 24, white, para 4. Gestation thirty-eight weeks. Entered Presbyterian Hospital August 13, 1927, at 6.30 a.m., having had four convulsions and in deep coma at entrance. Blood pressure was 168/105 mm. Urine contained four grams of albumin, casts, and a large amount of red blood cells. A moderate amount of generalized edema was present. Eye grounds were normal. Temperature normal, pulse 120, and respirations 24. Blood chemistry normal. Twenty c.c. heparmone was given intravenously, and repeated every fifteen to thirty minutes until 100 c.c. had been given in twenty-four hours. One mild convulsion occurred after treatment was started. Blood pressure was kept around 130/60 mm.

Patient was delivered two days later after a two-hour labor by means of low forceps for fetal distress, with ether anesthesia. Five days after entrance to hospital, patient's blood nonprotein nitrogen rose to 42, several twitchings of face occurred, acidosis developed and 200 c.c. of a twenty-five-per-cent glucose solution was given intravenously. This seemed to clear up the condition. Two days later patient developed a bronchopneumonia which cleared up in five days. After twenty days in the hospital, urine and blood pressure were normal, and patient was discharged.

Conclusions

This series, consisting of 122 eclamptic and preëclamptic cases, cannot be considered as final proof of the value of heparmone; but the fact remains that no preëclamptic woman developed convulsions, even though complicated by a preconceptional nephritis, and fourteen consecutive cases of eclampsia recovered, except one which had convulsions for five days before treatment and was in extremis when first seen.

Every case seems to have a neutralizing dose which relieves all symptoms, except that in the nephritic cases the blood pressure remains at the level consistent with the previous pressure of the individual, but convulsions do not occur, and all cases have been allowed to continue their pregnancy.

All cases in convulsions when first seen have been successfully treated and interference avoided. At no time in our previous experience have we had so large a series with results consistently good.

We hope to be able to simplify the treatment, perhaps to the extent of the oral administration of the drug or even of whole liver, but the amount of liver represented by a few cubic centimeters of heparmone necessitates its continued concentration.

Symposium on Pernicious Anemia*

INFECTION IN RELATION TO PERNICIOUS ANEMIA

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Some type of infection or infestation as the *sole* primary etiologic factor in pernicious anemia never has been, in my opinion, an inviting hypothesis. No infection which we know presents the profound disturbances in general metabolic activities which characterize pernicious anemia. The recent brilliant work of Minot and Murphy and their collaborators in the treatment of pernicious anemia by diet further weakens the idea of infection. This work represents one of the big advances in medicine. It is certainly almost a complete relief, and apparently while kept up, a permanent one. Perhaps it is a cure. In view of this, any hour allotted to the discussion of pernicious anemia should be largely devoted to this new treatment. I will, therefore, be brief so that there will be more time for my colleague,

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Dr. Fetter, to present this subject, and for its discussion.

The benefit derived from the dietetic treatment of pernicious anemia as outlined by Dr. Minot suggests that it is a deficiency disease. Stated more accurately, the results so far published suggest that some of the manifestations of the disease are those of a deficiency. Those manifestations relieved are the important ones, so that we have a symptomatic, perhaps a real, cure of the disease. But we have this without knowing the cause.

It is hard to believe pernicious anemia is only a deficiency disease—in the sense of a faulty diet—because no peculiarities of diet are elicited in the histories of these patients, and only an occasional victim appears among large groups of people eating the same things, living under the same conditions. Perhaps there is some inherited deficiency. Perhaps there is a weakening from overstrain of some functional system in some such way as a tendency to diabetes appears to be induced by long overindulgence in carbohydrates. Or perhaps there is an injury to some functional system by a coincident or preceding infection. We do not know the basic etiologic factor in pernicious anemia, and the search for it must be continued. In this the idea of infection or infestation must be kept prominent.

Infection alone can, and usually does, cause anemia. In a few types it is caused, in part at least, by the absorption of bacterial poisons which are hemolytic. In most, it results merely from a disturbance of the functional activity of the hematopoietic organs, similar to that of the other organs of the body, which is associated with infection. If the infection is sufficiently severe and prolonged, the resultant anemia has a high color index, often more than one. There may be, also, some anisocytosis and poikilocytosis, a polymorphonuclear leukopenia, and diminished platelets. A few well-known chronic infections and infestations (for example, by syphilis and by Dibothryocephalus latus) sometimes show a blood picture which resembles in every particular that of pernicious anemia. The similarity goes no further than the blood picture, however. If pernicious anemia is caused primarily by an infection, it must be either with some organism with special characteristics not yet described or with a known organism or organisms bringing about effects other than those known and usually encountered because of the special locality or circumstances in which they are active.

One can find reports of almost any of the common pathogenic organisms grown from the spleen, bone marrow, liver, upper and lower gastro-intestinal tract, and elsewhere after death; and from the mouth, duodenum, blood, and stools during life of pernicious-anemia patients. Most of these can be discarded at first glance as of no interest. Because of the disturbances of digestion, stomatitis, achylia gastrica, and frequent diarrhea associated with pernicious anemia, attention is directed to infections in the gastro-intestinal tract. Hunter[1] in 1909 developed rather at length the thesis that a streptococcic infection of the tongue and upper alimentary tract played an important part in the history of pernicious anemia. Hurst[2] found a streptococcus in the duodenum of all patients with pernicious anemia and degeneration of the spinal cord, and in less than eleven per cent of the controls. Jones and Joyce[3] reported infected gall bladders in thirteen cases diagnosed as pernicious anemia; and after cholecystectomy in five of them, there was improvement in many of their symptoms. Such reports are numerous, but none are convincing.

B. welchii has been cultivated from the stools (Cornell[4] and Nye[5]) of pernicious-anemia patients more frequently and in greater number than ordinarily encountered. Nye found a great increase in B. welchii spores in the stools of pernicious-anemia patients. He found just as many in the stools of patients suffering with achylia gastrica without pernicious anemia, and suggests that these findings are due to the achylia gastrica alone. Nye offers an explanation. He states that probably the reaction of the small intestine, at least as far as the mid-portion, and perhaps beyond, is decidedly on the acid side of neutrality when the acidity of the gastric juice is normal. Inasmuch as a neutral or alkaline reaction is necessary for active sporulation of B. welchii, an inhibition normally present is removed when there is achylia gastrica. This observation is suggestive. Could the altered conditions in the intestines, secondary to the achylia gastrica which thus influences the sporulation of B. welchii, bring about activities of some other organism, not yet known, that is responsible for the primary disturbance in pernicious anemia? But why, then, are there so many patients with achylia gastrica who do not develop pernicious anemia? This is not an insurmountable obstacle, for infestation with the fish tapeworm brings about a blood picture somewhat like that of pernicious anemia in only a few of those harboring the worm. A special circumstance, thought to be absorption of dead segments of the worm, must also be existent.

Perhaps the most suggestive work on altered bacterial activity in the intestine as a possible etiologic factor in pernicious anemia is the work of Seyderhelm[6] and his collaborators[7]. They made, in dogs, a stricture of the ilium about

five to ten centimeters above the ileocecal valve. Some of these animals developed an anemia which appeared to be hemolytic. These showed a bacterial flora in the small intestine similar to that in the colon; namely, a great overgrowth of B. coli. The dogs which did not develop anemia after this procedure retained a normal bacterial flora of the small intestines. In other words, when the B. coli, an actively putrefactive organism which is normally confined chiefly to the large bowel, became implanted in the upper intestinal tract, an anemia, apparently hemolytic, developed. Putrefactive organisms can produce from protein putrefactive substances which are hemolytic—parahydroxyphenylethylamin, or tyramin, from tyrosin for example, which has been shown to produce a hemolytic anemia when injected into the blood.[8] Tyrosin, no doubt, occurs frequently in relative abundance in the small intestine, but there is no reason to expect it in appreciable amounts in the colon.

There are some clinical observations which are related to this point of view. Cases have been reported with blood pictures of hemolytic anemia and strictures of the intestine, post-tuberculous in Deutsch's case[9], malignant in Haden's[10]. Chapman and Duff[11] cited cases with such blood pictures, with an altered bacterial flora and stasis but no organic lesion. Gram[12] likewise gave weight to an abnormal and excessive bacterial flora in the small intestines in patients with pernicious anemia for whatever reason, organic stricture or not. The same hypothesis was considered by Giffin and Dixon,[13] who did an ileosigmoidostomy on a few patients, with some relief. Julich[14] grew colon bacilli from the duodenal contents in seventeen cases of pernicious anemia, in fifteen of them on the first culture. They were present in the duodenal contents of only one third of the eighty-one control cases, more frequently in those with disease of the duodenum and gall bladder. What do these observations mean? Is an altered bacterial flora in the intestines primary or secondary? If primary, is the B. coli the troublemaker, or is its invasion of the upper gastro-intestinal tract merely the result of conditions permitting another and unknown organism to operate? We do not know.

Sprue resembles pernicious anemia in more particulars than any other disease; and in considering the possible etiology of pernicious anemia, certain studies in relation to it may not be passed by. Bahr,[15] in 1914, cultivated a yeast, Monilia albicans, from the tongue and stools of patients with sprue, and Ashford,[16] in Porto Rico, isolated a yeast from the same source which he named Monilia psilosis. Smith[17] reported the same results from the Philippine Islands. Since that time this same organism has been reported by others (Wood;[18] Oliver;[19] Rogers;[20] Brown, Jacobson, and Garcia;[21] Baumgartner and Smith[22]) in cases of sprue, even in America. Ashford presented Monilia psilosis as a possible etiologic factor in sprue in a convincing manner when conditions in the intestine were favorable for its colonization. Smith suggested that favorable conditions for its implantation resulted from a diet deficient in vitamins. The same vitamin deficiency was suggested by Elders[23] and van der Scheer.[24]

Can it be possible that pernicious anemia, also, is due to an organism, the implantation of which is made possible by some such disorder? Wood asserted that, as readily in pernicious anemia as in sprue, Monilia psilosis could be recovered from the stools, gastric contents, and mouth[25]. He reported inducing a hemolytic anemia in guinea pigs by feeding Monilia psilosis, and in rabbits by injecting intravenously a dextrose filtrate of the yeast. Brown, Jacobson, and Garcia fed a Monilia grown from the stools of pernicious-anemia patients to animals over long periods, and no anemia resulted. When inoculated intravenously, subcutaneously, and intraperitoneally, a slight decrease in the red-blood-cell count and hemoglobin reading in some of the animals was found, but in no instance was the blood picture of pernicious anemia reproduced. The sera of these animals showed agglutinins and complement-fixing antibodies for Monilia. The sera of the patients with pernicious anemia had similar antibodies, but so did the sera of patients with conditions other than pernicious anemia or sprue from the stools of which Monilia had been cultivated.

Carrying this study further, O. Garcia, B. Garcia, Boyce, and Brown[26] found two strains closely resembling each other and the Monilia psilosis of Ashford, but differing in some morphologic, cultural, and serologic particulars. Both strains were grown from patients with pernicious anemia and from those with other conditions. Baumgartner and Smith, while recovering Monilia from fourteen of fifteen cases of sprue, grew it only four times from the stools of pernicious-anemia patients. These studies suggest that this possible infection in the etiology of sprue is not so in pernicious anemia. In pernicious anemia, intestinal infection with Monilia appears more likely to be the result of some underlying condition, as the increased number of B. welchii spores reported by Nye in the stools of patients with pernicious anemia seems also to be.

Pernicious anemia is not an infectious disease.

If caused by some type of infection, that infection must be only one of two or more contributing factors. Recall, for analogy, achylia gastrica which permits sporulation of B. welchii; intestinal stasis, organic or functional, which permits abundant growth of B. coli in the small intestine; and the supposed vitamin deficiency which makes possible colonization of Monilia psilosis in the intestine of patients with sprue. If any such situation exists in pernicious anemia, how does the liver feeding of Minot and Murphy accomplish its brilliant results? Is the contributing factor to some infection in pernicious anemia a deficiency in some activity of the liver not yet known, a hormone or internal secretion supplied by feeding liver? Or does the liver when fed merely replace some deficiency, supply some vitamin? Perhaps what we call pernicious anemia is several diseases, one a deficiency disease, another an infection. If this is so, I have encountered only one of them since Dr. Minot made his announcement, for all my patients have reacted splendidly to his dietary treatment.

The answer to these questions seems difficult. I cannot believe it is remote. The new vista opened up by the work of Minot suggests lines of investigation which will yield results. In the meantime we need no longer dread to see a patient with pernicious anemia. We can now keep him alive and well.

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THE PRESENT-DAY TREATMENT OF PERNICIOUS ANEMIA*

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Interest in the dietotherapy of pernicious anemia has been greatly stimulated since Minot and Murphy[1] in 1926 made their highly important contribution to the treatment of this disease by the use of a special diet. Heretofore, various forms of therapy, including the use of certain drugs, as arsenic, blood transfusions, removal of foci of infection, the x-ray and radium, splenectomy, administration of dyes, rest, and climatic cures, have been tried, and have failed to impress as definitely beneficial agents. Dietary treatment in pernicious anemia has been, by no means, untried. Various types of diets have been suggested for anemia as long ago as 1863[2] and reports on the results of dietotherapy have been, at times, quite encouraging. Minot and Murphy[1] have reviewed quite thoroughly the history of the use of different diets in the treatment of anemia, so that only some of the more important and most interesting contributions in recent years will be mentioned here.

Fraser[3] in 1894 obtained satisfactory results in the treatment of pernicious-anemia cases by giving the patients 100 grams of red bone marrow daily. He believed the beneficial effect to be due to some hormone. This opinion is quite interesting in view of the most recent work on the effect of liver in pernicious anemia. It is thought that the benefit derived from liver feeding depends on a hormone, and red bone marrow and liver are quite similar in "nutritional composition." Mosenthal[4] in 1918 demonstrated that by means of a forced diet in primary anemia, a positive nitrogen balance could be maintained; and further, an improvement in the blood picture in the few cases investigated. Gibson and Howard[5] in 1923 sought to test the efficiency of a diet high in iron in idiopathic anemia. They used a balanced diet, including liver, but not one high in protein. From the limited number of cases observed, they believed a positive nitrogen and iron balance, as well as distinct clinical improvement could be obtained in pernicious-anemia cases when there was forced feeding. They pointed out, however, that caution should be observed in concluding that an iron-rich diet hastened blood regeneration in cases of anemia in which remission occurred naturally. It is unfortunate, with the improvement seen in their cases, that their investigations along the same lines were not continued.

In their more recent animal experimentation,

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Whipple and Robscheit-Robbins[6] made further important contributions to the treatment of anemia by diet, and stimulated anew interest in the dietotherapy of clinical anemias. They observed from their experiments that liver was especially valuable, and beef heart and beef muscle less so, in producing maximal blood regeneration in severe acute anemias associated with hemorrhage. In further experiments[6] they demonstrated that where there were severe anemias of long standing associated with hemorrhage, iron treatment gave favorable results. Minot and Murphy,[1] following the work of Whipple and his associates, published in August, 1926, the results of their investigations of the effect on the blood in pernicious anemia of a diet "high in complete proteins and iron—especially liver—and containing an abundance of fruits and vegetables, but low in fat." They observed the response of 45 patients with typical pernicious anemia to their special diet over a period of from six weeks to two and a half years. The results of this particular treatment were highly gratifying, and it was noted that there was always a prompt remission following the use of the diet. Where the initial average count was 1,470,000 red blood cells per cubic millimeter in all of the cases, twenty-seven of these, observed from four to six months after the introduction of the diet showed an average count of 4,500,000 cells per cubic millimeter. In the cases treated for eight months, the blood continued to show, on the average, satisfactory counts, and in several of them a count of 6,000,000 or more red blood cells per cubic millimeter. Clinical improvement was rapid in all of these cases, and the patients maintained their improved health so long as they followed the diet. In a more recent communication[7], the same investigators have reported their observations on the treatment of 105 pernicious-anemia cases with a rich liver diet. In this group there were 45 patients who had been treated for from one to three years. The special diet benefited all uncomplicated cases in which there was adequate ingestion of liver. The patients having the diet for from two to three years showed an average red cell count of 4.5 millions per cubic millimeter, as well as continued good health.

This communication intends to help evaluate the effect of a diet rich in liver in the treatment of a group of pernicious-anemia cases observed over a period of one and a half years. It is more confirmatory in nature. The group studied comprised a total of 34 cases, some of which have come under observation only within the last few months. The diet used in the treatment of these cases was essentially the one advocated by Minot and Murphy[1], with special emphasis on the use of adequate amounts of liver (average 200 grams daily), irrespective of what other foods were eaten. No particular attention was paid to any other form of therapy. Dilute hydrochloric acid was used in most of the cases, and the more severely ill patients were, at first, kept at rest in bed.

The results of the special dietary treatment in this series of cases confirmed the observations of Minot and Murphy[7]. In the uncomplicated cases, there was practically always prompt clinical improvement, with betterment of the blood picture. The health of the patients and the more normal red-blood-cell count were maintained so long as the patient continued to eat an adequate amount of liver. The amount of liver necessary to keep the blood at a more normal level and the patient in a state of better health varied for different individuals. A few of the patients, after their blood had passed 4,000,000 cells per cubic millimeter, progressed quite well on a surprisingly small amount of liver. As a rule, however, the majority were required to eat liver in fair quantities and continuously to keep up their blood count. It was impossible to compute accurately the amount of liver eaten by the patients after they left the hospital, so that the average, minimum, and maximum requirements necessary to maintain health and a high blood count could not be estimated. In none of the cases, where the blood had reached a satisfactory level and where the diet was followed conscientiously, did a relapse occur.

All of the cases, except two which were on the liver diet only three months, were under observation for at least a half-year. Nineteen of the total were treated for from ten to eighteen months, a majority of these from fourteen to eighteen months. The results of the treatment in the latter group were surprisingly beneficial. There was practically always rapid response to the treatment, as seen in the changed blood picture and improvement of symptoms. A red blood count of 4,000,000 or more cells per cubic millimeter was reached and maintained in all of the nineteen patients on treatment from ten to eighteen months, with the exception of five cases. Two of these five did not follow their dietary instructions in regard to liver, although both of these patients noted improvement in their condition when liver was eaten. Another was a case complicated by severe persistent chronic arthritis. There was clinical improvement in this case, but the red blood cells usually remained below 4,000,000 per cubic millimeter. This patient had been transfused twice shortly before the dietary treatment was started. The

red cell count, at the beginning of the liver feeding, was 3,180,000. A recent count showed 3,990,000 cells per cubic millimeter. The fourth patient, an elderly lady, had as a complication what was apparently chronic gall-bladder disease. She had frequent epigastric and bowel distress, with attacks of nausea and vomiting, and was unable to follow her diet. At one time during a period of freedom from attacks her blood reached the figure of 4,040,000 cells per cubic millimeter, but did not remain this high very long, as the abdominal discomfort soon interfered with the eating of the liver.

The fifth case, not satisfactorily responding to the liver diet, was a most interesting problem. The patient, a young lady aged 30, was brought to the hospital in virtually a moribund state, and went into coma soon after her admission. There was intense pallor, generalized edema, and very weak heart action. The blood count was below one million cells per cubic millimeter, and the picture typically one of primary anemia. The patient was transfused immediately, and within forty-eight hours was given three additional transfusions. The response to transfusion was remarkable, and there followed marked clinical improvement. The red-blood-cell count averaged 2.8 million per cubic millimeter for the three months following the transfusions. Then a diet rich in liver was given the patient, but the response was slow. There was definite clinical improvement, and the patient looked very much better, but the blood count remained low. During eleven months of faithful dieting the monthly red-blood-cell count averaged 2.5 million per cubic millimeter, and only recently rose slightly above 3,000,000 cells.

This case is interesting for two reasons. First, it is quite evident that there are certain types of pernicious-anemia patients which cannot be treated by dietary methods. It would have been futile to attempt liver feeding by the mouth or introduction of it into the stomach in this particular case. Multiple transfusions saved the life of this patient, and it is well not to forget the value of this therapeutic procedure in similar instances. The second interesting point in the case was the lack of satisfactory response to the liver diet, especially seen in the blood count, which did not rise above 3,000,000 cells per cubic millimeter in eleven months of dietary treatment. It would appear from the results of the treatment in this case, and from observations on two other transfused patients who responded very slowly to dietotherapy, that there is a less satisfactory response to the liver diet in patients who have had multiple blood transfusions. However, there were two patients under observation who had had transfusions previous to the introduction of the special diet, and each of these responded quite rapidly to liver feeding. In the group of five cases treated by blood transfusions it was noted that those transfused shortly (within a few months) before the liver diet was started responded less well than those in which a longer interval existed between the transfusion period and the dietary régime. The three unsatisfactory cases mentioned above were transfused within a few months previous to the beginning of the liver diet, and one of these immediately preceding the introduction of the diet.

As mentioned above, the clinical improvement in the uncomplicated pernicious-anemia cases was usually rapid and marked when the liver was eaten in sufficient quantities. Improvement in the symptoms was frequently noted by the patient before any definite increase in the hemoglobin or red blood cells occurred. An exception to the rule of satisfactory clinical improvement was seen in several cases in which there was marked involvement of the nervous system. One case, showing a tabetic picture, was not improved at all from the neurologic point of view, even though the red blood cells went above 4,000,000 per cubic millimeter. However, the general condition of the patient became very much better and continued so in spite of the neural symptoms. Another patient with symptoms of posterolateral sclerosis felt much improved and his blood was maintained at practically a normal level with liver feeding, but there was always difficulty in locomotion. One cannot expect too much improvement with marked degeneration of the cord. In many of the cases in which there was less marked involvement, the nervous symptoms improved and at times virtually disappeared. Numbness and tingling in some instances disappeared altogether, and a marked improvement was seen in both the vibratory sense and coördination. The symptoms and signs of cord changes did not become more marked nor progress in any of the cases on the liver diet.

An interesting type of patient was seen while making observations on the effect of a rich liver diet in the above-mentioned primary-anemia cases. Several patients who were studied could not be definitely classified as belonging to either the primary or the secondary group of anemias. They had some of the characteristics of pernicious anemia, but lacked something in the complete examination to define them sharply as true primary types. As an example, one of this small group had a 40-per-cent hemoglobin, a red blood count of 2,850,000 cells per cubic millimeter and a leukocyte count of 6,200. There was slight variation in the size of the cells. The appearance

of the cells in the fresh smear was not suggestive of a pernicious-anemia picture. The plotted curve, from the measurement of the diameter of the cells, was of a secondary-anemia type, although very close to the normal. The bilirubin of the blood serum was not increased above the normal figure. A fractional gastric analysis revealed an absence of free hydrochloric acid in all specimens. The appearance of the patient suggested pernicious anemia, but there were no typical symptoms. At first there was no paresthesia, but months later slight numbness and tingling appeared in the fingers. The general physical examination was virtually normal, except for the pale yellow color of the skin, and the presence of an abscessed tooth and diseased tonsils. It was thought that focal infection might be a factor in the anemia, and accordingly the abscessed tooth and the tonsils were removed. There was no history of acute or chronic hemorrhage.

The patient, following the tonsillectomy and the extraction of the abscessed tooth, was put on a liver diet. At this time the hemoglobin percentage was 45, the red count 2,660,000, and the color index 0.86. During the next five months, the red count averaged 3.1 million cells per cubic millimeter. The improvement in the patient's condition was not satisfactory, although there was definite relief from many of the symptoms. The betterment of the physical state, however, was not reflected in the blood count. After five months of the liver diet, Blaud's pills, five grains each, three times a day, were prescribed for the patient. The results, of one month's treatment with the liver diet in conjunction with the iron, were startling. The red blood count, which had averaged 3.3 million in the previous two months, increased in the one month to 4,480,000, and has kept at about this figure during the last eight months. The hemoglobin, which had averaged 67 per cent, increased to 80 per cent. The color index was 0.90. More striking was the report on the improved clinical condition. The patient reported perfect health.

This case is illustrative of several of the same type seen in the treatment of pernicious-anemia cases with the liver diet. They failed to respond to the straight dietary therapy, requiring iron administration in addition to the usual amount of liver, to give adequate relief from the symptoms and produce a satisfactory increase in the red blood cells. These patients had what might be termed an atypical pernicious anemia. In many respects the features were more characteristic of secondary anemia, yet the impression of a primary type was most appealing. They could not be classified as one or the other, but the insufficient response to liver diet alone and quite satisfactory response to the combination of iron and liver, strongly suggested a secondary type. It is unfortunate that none of these patients were treated with iron alone, as important information might have been gained from such a study. This particular group needs further investigation to define clearly its status in regard to exact diagnosis.

The changes in the composition of the blood, where there was satisfactory response of the patient to the dietary treatment, were quite interesting. Observations on the blood of the abovementioned cases coincided largely with those of Murphy, Monroe, and Fitz[8], who have reported the results of a thorough study of this phase of the investigation. Although actual counts of the reticulated blood cells were made in only a few cases, it was noted that there was an increase in this type of cell in all cases, before any definite elevation of hemoglobin percentage or red-blood-cell count occurred. It was shown, before the advent of liver diet, that the reticulated cells increased in number as the pernicious anemia patient went into a remission. The increased number of reticulocytes appeared before any symptomatic improvement, while the latter usually preceded a definite rise in the red-cell count. As remarked by Murphy and his associates, "the increase in the reticulocytes appeared to offer the first evidence of the delivery of new, young red cells to the general circulation from the bone marrow, for following the rise in the number of reticulated cells, there was a rapid increase in the hemoglobin concentration and in the red-cell count."

As a rule, the hemoglobin percentage increased proportionately with the red-cell count. However, the color index frequently fell below 1 and remained so, as the number of red cells closely approached or went above 4,000,000. This was not true of all cases in which the blood attained a normal level. In every case in which there was a high color index, the dietary treatment caused a definite reduction, often quite early, the figure approaching 1. In addition to the fall in the color index, the red blood cells following adequate liver diet were much more normal in appearance, and frequently it was impossible to designate the blood as belonging to a pernicious-anemia patient.

Difficulty was experienced in appreciating the exact significance of the serum bilirubin in this group of cases. The Anderson-Thannhauser modification of the van den Bergh test was used to estimate the bilirubin quantitatively, but in some instances it failed to show an amount above the normal, in cases apparently in a relapse.

This does not agree with the observations of most investigators, who have reported an increased bilirubin content of the blood serum in cases in relapse. When the serum bilirubin was increased above the normal figure, a decrease in the amount invariably resulted as the red cells increased in number. The bilirubin curve, in most instances, showed an early fall, even before any marked change was seen in the number of red blood cells. Fluctuations of the bilirubin at times were marked, with the blood count remaining at a normal level. The icterus-index test, as described by Murphy[9] for the quantitation of serum bilirubin, is no doubt a reliable method.

The diameter of the red blood cells in these cases was measured by Dr. A. R. McCormick[10]. He demonstrated many times that the measurement of the cells was of great importance in the diagnosis of pernicious anemia. From the results of his investigation in liver-treated cases, it was seen that the typical pernicious-anemia curve assumed the form of those found in normal individuals or in secondary anemias. The curve remained asymmetrical early in the treatment, as in the true primary type, but moved to the left of the normal curve. Following further treatment the curve became symmetrical, assuming a normal form. McCormick reported one case in which there was no response to the liver diet, the blood curve being typical of pernicious anemia up to the time of death.

The liver extract, which has been isolated by Minot and his group, will soon be available for general use. It would appear that the results obtained by the use of this extract are quite as good as those seen by liver feeding. On account of the great difficulty that some patients, particularly those living in the rural districts, have in obtaining liver, this new preparation will satisfy an actual demand.

The recent work of Macht[11] on the effect of ultraviolet rays plus sensitizers, such as eosin or tetrabromfluorescein, in pernicious anemia is most interesting. The results of this treatment have been, apparently, quite good. Another recent treatment of interest is the high-vitamin, high-caloric diet described by Koessler and Maurer[12]. They emphasize the possible relation of the spinal-cord degeneration to vitamin-B deficiency. The results of their treatment, in cases with severe cord lesions, have been most striking.

SUMMARY

(1) A diet rich in liver has been very successful in the treatment of thirty-four pernicious-anemia cases.

(2) The cases with marked cord degeneration show little improvement in the neurologic symptoms. However, the symptoms of early cord disturbance are often greatly relieved.

(3) Cases having transfusions within a comparatively short time before the beginning of the diet seem to respond more slowly.

(4) Cases acutely and critically ill may still demand transfusions.

(5) It sometimes appears to be of value to associate iron treatment with liver feeding.

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ABSTRACT OF DISCUSSION

Of Symposium on Pernicious Anemia

CARL E. ERVIN, M.D. (Danville, Pa.): I have no doubt that an infection is directly or indirectly responsible for many of the symptom complexes which we call pernicious anemia, and I wish to call attention to the part which infections of dental origin play in some of these cases.

In June, 1920, a white man aged 43 came to the Geisinger Memorial Hospital with a classical laboratory and clinical picture of pernicious anemia. He did not improve much under the then accepted treatment until he had a dental clean-up. Two or three years later he suffered a relapse, which was treated with more transfusions and another dental focus was cleared up. He is in good health today. The same type of clinical experience has occurred repeatedly.

Dr. A. B. Vastine, chief of the dental department of the Geisinger Hospital tells me that the dental infection is usually one of three types: (1) a condensing osteitis; (2) a cystic form which may be anything from a pinhead granuloma to an end-stage cyst with a markedly thinned-out wall which contains the organisms and liquified sterile contents—the most common type; (3) the medullary form which is practically infection of the bone marrow, and in which the marrow is either partly or completely broken down. The medullary in-

fection must be differentiated from an osteomyelitis. The treatment is surgical. Either of these types of infection might be brought about through any of the portals of entrance common to oral infection—periapical infection, gingival infection, or trauma.

The greatest problem is to find a dentist who is trained to do this sort of work, due to the prevailing type of dental education. An able oral diagnostician must consider the general health of the patient. Such a man should be granted all the courtesies that belong to a real physician.

The relationship between the dentist and the physician must change during the next few years if the patient is to receive fair treatment. This will be possible when dental education is put on a different plane, and the dentist is a recognized practitioner of the healing art. A physician is not justified in ordering removal of any pulpless teeth. This subject is sufficient to demand the full time of the best-trained oral diagnostician.

No patient with anemia should be permitted to carry any chronic focus of infection, even though the response to other forms of treatment may be prompt. Our patients always have the advantage of the recent contribution of Minot and Murphy, of blood transfusion, and of any other treatment that may be indicated. No case of anemia should be regarded as hopeless, no matter how sick the patient may be. In extreme cases, transfusion is as much in order as ever. In fact, transfusion is indicated in most of these cases, as it shortens the convalescence by several weeks.

J. Newton Hunsberger, M.D. (Norristown, Pa.): I wish to report two cases of pernicious anemia, and in the beginning will state that both patients had had their teeth removed. One had worn artificial teeth for thirty years and the other for ten.

The first case was that of a woman, aged 63, who had been in ill health for two years, and when I saw her on August 2, 1927, had been in bed for two months. She was edematous, serum was oozing through her skin, her pulse was 40, she had granular and hyaline casts in the urine, was passing four ounces of urine a day, was vomiting, had a little over a million red cells, was comatose, and presented a typical picture of pernicious anemia. She had a P_H of 7.26, and a hemoglobin of 30 per cent.

This patient was given raw calf's liver run through a meat grinder twice and mixed with orangeade. She had not been eating any food for a week or more, and we fed her this mixture with a spoon. This was followed with 1/10 grain of calomel every hour, which was persisted in for six weeks. In October, 1927, her blood showed a little less than four million red cells, the edema had entirely disappeared, her pulse was normal, her kidney condition had cleared up, and she was doing her bit of light housework without difficulty, feeling as well as she ever had. After the first week, she was fed cooked liver, either fried or broiled, and she has never taken less than eight or twelve ounces a day. She also eats a good quantity of greens, raw cabbage, string beans, etc. She has no foci of infection that we can discover, and had no demonstrable spinal symptoms. Her P_H came back from 7.26 to 7.36 on the acid side.

The other patient was edematous, but not in such a bad condition, and not bedfast. She had tingling sensations and numbness, lack of coördination, and could not sew or do any work. There were hyaline and granular casts and some albumin in the urine. There were not quite two million red cells, and the hemoglobin was 40 per cent. Her color was very bad, but her eyes showed no jaundice. In less than six weeks this patient was able to return home and do her housework.

I have never seen anything in medicine quite so marvelous as the results obtained from liver feeding. There is something peculiar about the patients' liking for liver. They seem to prefer it to any other flesh food.

Clement R. Jones, M.D. (Pittsburgh, Pa.): In the discussion of the liver diet, mention is seldom made of those patients who are unable to take liver. I have had three such patients.

One had been under treatment for some time when the liver diet was announced. He started on it and improved somewhat, but soon turned against the liver. It produced nausea, although the method of preparation was varied. The case terminated fatally.

Another patient improved nicely on the liver diet, and the red cells increased from less than 2,000,000 to 4,000,000 before he became unable to continue the diet. When the red cells again fell below 2,000,000 I began the use of desiccated liver, giving 15 grams a day, and the condition of the reticulated red cells improved until within a month they once more numbered over 4,000,000 —which state he has been able to maintain. He has had some hypodermic injections of plain green citrate of iron, and is doing well.

In another fatal case of pernicious anemia, the patient could not take liver prepared in any way with which we were familiar.

The following recipes were prepared by the wife of a patient of Dr. George L. Hays, who is apparently skilled in the culinary art, and who is reported to have twice this number of methods of cooking liver. There is great need for skill in the preparation of this food, for there are a certain number of cases in which a distaste for liver arises.

Recipes for Preparing Liver

Vegetable Soup: One quarter pound of liver will make two bowls of soup. Grind the vegetables—a heaping tablespoonful each of potato, carrot, celery, cabbage, and turnip, and a half tablespoonful of onion. Add one large tomato or almost one-third can of tomatoes pressed through a sieve. Cover the liver with at least a pint of cold water and cook almost ten minutes. Add the vegetables and cook until they are well done.

Cream-of-Liver Soup: Two cups of milk. Flour and butter to make a cream dressing (about one small teaspoonful of butter and a heaping teaspoonful of flour). Add a heaping tablespoonful of minced or ground liver which has been cooked in a small quantity of water. Do not pour off the water; boil it down and add to the cream soup.

Minced Liver and Rice: Brown the liver slightly in a little butter and then cook slowly for a few minutes with the pan covered. Add the liver to the already hot cooked rice—about a sixth of a pound of liver to two-thirds of a cup of rice.

Liver and Bacon: One small lean piece of bacon to a sixth of a pound of liver. Fry the liver after the bacon. It is very palatable sometimes to grind the bacon and liver together. Make it into a cake and fry in a little butter. Make flour or water gravy as preferred.

Liver and Onions: One large onion or two small ones, parboiled so that it will not take so long to brown them.

Fry the bacon, set aside, and brown the onions in the bacon fat. Use only one piece of bacon. Set the onions and bacon aside where they will keep warm; then fry the liver in the fat that is left. Sometimes it will be necessary to add a little butter.

Liver and Tomatoes: Fry a sixth of a pound of liver either in pieces or ground. Puree either two fresh tomatoes or one-third can of tomatoes. Make a brown gravy after the liver is cooked, and add the tomatoes.

Baked Liver: Either grind or cut in pieces a sixth of a pound of liver. Cook in a small casserole with a small quantity of water and a small piece of butter for about fifteen minutes in a moderate oven. This is very good if a tiny piece of garlic is added.

Liver Omelet: Fry about a heaping tablespoonful or a little more minced liver for a few minutes in butter. Beat one or two eggs until light, toss them about in hot water, then mix the liver through the eggs.

Stuffed Pepper: Stuff a good-sized pepper with either raw or cooked liver mixed with bread, butter, and seasoning. Bake with water and butter.

Stuffed Tomato: Scoop out the tomato. Mix this with minced or ground liver, a little minced onion, celery, bread, and a small piece of butter. Season with sugar, salt, and pepper, and fill the tomato shell. Bake about twenty minutes.

Broiled Liver: A small thick slice can be broiled like steak. Avoid cooking too much.

Liver Dumplings: There is a German recipe which I cannot quote correctly, as my patient does not care for it. It is something like this: ground liver, a little minced onion, bread, and a small quantity of baking powder. This is made into balls and dropped in hot broth.

Liver should not be fried too hard. Cook to a light brown on both sides; then cover the pan. Cook long enough that it will not be rare, but do not cook too much.

A half-pound of liver is the amount prescribed for one day. Apportion it into three meals—or a sixth of a pound per meal. The patient is not restricted to a half-pound if more than that amount can be eaten in a day.

WILLIAM H. MERCUR, M.D. (Pittsburgh, Pa.): I have had a number of patients who could not take liver, and shall be very glad to make use of Dr. Jones's recipes. I wrote to Dr. Minot regarding this difficulty, and he suggested that we prepare liver broth. He also stated that a liver extract is in course of preparation which will soon be on the market. He thought this extract would be as efficient in these cases as insulin is in diabetes.

JUDSON DALAND, M.D. (Philadelphia, Pa.): Many will recall the contribution by Drs. Osler and Henry, who showed that one cause of pernicious anemia was atrophy of the gastric tubules with absence of hydrochloric acid in the gastric contents. I incline to the opinion that the disease is due to multiple causes, chief among which may be an unknown toxin. This toxin may originate in the intestines or in a focus of infection. Focal infection that has existed for years has caused severe anemia of the pernicious type in the aged and debilitated. These patients frequently recover after removal of the focus and administration of an autogenous vaccine.

I recollect the case of an infant with the blood picture of pernicious anemia in association with extreme putrefaction of the intestinal contents, the feces containing cadaverin and putrescin. Rapid recovery followed free purgation and a proper diet.

There is much that we do not know regarding the exact manner in which red blood cells are normally formed, or why their number remains uniformly constant. The average number of red cells per cubic millimeter at sea level is in the neighborhood of five million, and at an altitude of eighteen thousand feet the average number is ten million. This number is constant no matter whether one is a visitor at this altitude or a native. On return to sea level, in about three weeks the native and visitor each lose five million red cells. This observation indicates the existence of an exquisite automatic balance by which the number of red cells is adapted physiologically to the oxygen need of the individual. It is conceivable that if this mechanism is disturbed anemia may develop.

Certain cases of pernicious anemia show pathologic changes in the spinal cord and elsewhere in the nervous system, yet with a normal red blood count. This would seem to indicate that these individuals are under the influence of a toxin that possesses selectivity for the cells of the nervous system.

The cause of spontaneous recovery from severe pernicious anemia and its recurrence after an interval of months or years is a mystery.

JOSEPH H. BARACH, M.D. (Pittsburgh, Pa.): In the case of true pernicious anemia there is achylia gastrica. In 552 cases reported by competent workers, 92 per cent showed achylia. In my own series of cases, it was invariably present. Some have believed achylia to be the cause of pernicious anemia, and surgeons have reported the development of pernicious anemia after gastrectomy. Nevertheless, we are far from safe in assuming a cause-and-effect relationship. In secondary anemia there is an apparent relationship between the degree of hypoacidity and the degree of anemia, but, so far as I know, it is not one of cause and effect.

In this discussion it has been emphasized that focal infections are responsible for pernicious anemia. Yet how frequent are focal infections and how infrequent cases of pernicious anemia! I know of no disease in which diseased tonsils, apical abscesses, and severe pyorrhea are more common than in diabetes; yet in these patients anemia is not a serious factor and pernicious anemia is very rare (not one case of it in 400 diabetics). I am inclined to believe that dental infections are an effect rather than a cause of pernicious anemia, and believe it important to treat them from this viewpoint. I certainly should not begin the treatment of a case of pernicious anemia by extracting all the teeth, thereby adding to the already great hazards of the case. As in diabetes, so in pernicious anemia, the pyorrhea will improve and infections will become less serious as the general condition of the patient is improved by the specific measures instituted. Of course, infectious foci should be removed, but at a time when the patient is sure to survive the operation.

Almost the equal of insulin in diabetes is the effect of a quarter to a half pound of liver daily in the treatment of pernicious anemia. More than twenty years ago, Shoemaker, of Philadelphia, reported good results from ingestion of large amounts of the juice of raw beef. Since that time I have obtained consistently better results with this method than have been secured by transfusion. It has recently been demonstrated that transfused cases are the slowest to respond to liver treatment, and it may be that this indicates an actual depression of the hematopoietic function.

I am pleased to learn that Dr. Fetter gives iron to these patients. I have been doing this for more than a year. Not less than teaspoonful doses of dilute hydrochloric acid should be given. Most encouraging of all in the treatment of pernicious anemia is the improvement noted in the function of the spinal cord. The best result I have seen is in a patient whose cord symptoms were so severe as to necessitate the use of two crutches at the time of her entrance into the hospital. Eight months later, this woman was efficiently driving an automobile in traffic without difficulty or fatigue.

THEODORE H. WEISENBURG, M.D. (Philadelphia, Pa.): Spinal-cord symptoms are often the first manifestation of pernicious anemia, and may precede the blood picture by two years or more. These symptoms usually begin with a numb or dead feeling in the hands and arms which gradually spreads to all parts of the body, followed by difficulty in walking. I have never failed to demonstrate spinal-cord disturbance in pernicious anemia.

We have had good results from the liver treatment. In one instance, that of a neurologist, such treatment was instituted on the presence of the cord symptoms alone, with great success.

W. W. G. MACLACHLAN, M.D. (Pittsburgh, Pa.): There are three classes of patients to be considered in connection with liver therapy—those who like liver and do well on it, those who cannot eat it, and those who cannot get it. I had never before realized how difficult it is to secure liver regularly. Those patients who live in small towns cannot get it. For them the liver extract soon to be issued will be a valuable remedy.

DR. EVANS (in closing): Any infection, from lobar pneumonia to an abscessed tooth, may give the picture of pernicious anemia, and many of them will parallel the blood picture very closely. The blood picture alone is not sufficient basis for the diagnosis, however. In a case of chronic infection with anemia I believe we are not justfied in relying only on liver feeding for a cure. It is safer to assume that it is a case of secondary anemia caused by a functional lowering of the hematopoietic system or due to the absorption of hemolytic toxins. Of course there are many infections in connection with pernicious anemia, but unless we are sure the case is not one of secondary anemia due to infection, the focus should be cleared up before anything can be expected of liver feeding.

Neurologic symptoms are among the first to appear in pernicious anemia. This disease attacks the sheaths of the red cells and the sheaths of the nerves, and these are the two tissues of the body in which lecithin is a prominent constituent.. Perhaps it is the lecithin which is attacked. I have seen two or three cases of disseminated sclerosis in which there was a certain amount of anemia. One case was diagnosed anemia, but we felt that the bladder symptoms were so far in excess of the blood symptoms as to deserve first consideration. Perhaps pernicious anemia and disseminated sclerosis are the same disease, in one case the blood cells being attacked and in the other the nerve sheaths. We see cases at all points between these two extremes. I have been looking forward to treating such a case with liver.

Dr. Maclachlan referred to the difficulty in obtaining liver. This is true. One patient of mine, a farmer, goes to town every Saturday morning and buys three and a half pounds of liver, takes it home, and puts it up in half-pound packages by the cold-pack method. He finds this very satisfactory.

Symposium on Tuberculosis of the Skin*

CLASSIFICATION OF TUBERCULOSIS OF THE SKIN†

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To the student approaching the subject of tuberculosis of the skin, a certain amount of confusion seems to exist in the classification of its lesions. Various authors in this country and in Europe differ as to their method. This may be explained in large part by several difficulties which arise in attempting a clear-cut and generally accepted classification:

(1) No other disease, with the single exception of syphilis, shows so great a variation in the morphology of its skin lesions.

(2) Owing to the resistance of the individual and the creation of antibodies, it often has been extremely difficult and sometimes impossible to demonstrate the presence of the bacillus in certain types of lesions which were evidently of tuberculous origin.

(3) Until within the past few years it was commonly accepted that in all forms of tuberculosis the presence of the tubercle was an essential characteristic. More recent research has modified this belief. Lesions due to the presence of the tubercle bacillus are found and are produced experimentally in animals without the formation of tubercles—"inflammatory reactions without tubercles."[1] Such reactions occur in all tissues and all organs, including the skin. Calmette states, obversely, that "certain vegetable parasites or animal parasites, various bacteria, and also certain foreign bodies are capable of producing within the body tissues cellular reactions which terminate in the development of real tubercles."[2]

(4) It is not unusual to find examples of skin tuberculosis differing markedly from the commonly accepted types.

(5) In whichever of the varied forms the lesions may appear, they are modified by both the virulence of the invading organism and the resistance of the individual.

Beginning with the miliary form of tuberculosis of the skin (tuberculosis miliaris cutis), which was the first to be definitely recognized and was, for a time, considered to be the only form of true cutaneous tuberculosis, the list has

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lengthened to its present number, and there is a strong probability that others will be added. Two examples may serve to illustrate the difference in classification employed by different authors. The first is from the work, "Tuberculosis of the Skin," by F. Lewandowsky of Hamburg.

CLASSIFICATION OF LESIONS

A. Those appearing as progressive individual lesions, occurring in groups.
   1. Lupus vulgaris.
   2. Variations of lupus:
      (a) Lupus miliaris disseminatus.
      (b) Lupus pernio.
   3. Tuberculosis verrucosa cutis.
   4. Tuberculosis colliquativa (scrofuloderma).
   5. Ulcerative forms of skin tuberculosis:
      (a) Ulcers of the genitalia.
      (b) Ulcers of the legs.
      (c) Paronychia.

B. Those appearing in the form of exanthemata.
   1. Miliary tuberculosis of the skin.
   2. Lichen scrofulosorum (tuberculosis lichenoides).
   3. Papulonecrotic tuberculid (tuberculosis papulonecrotica).
   4. Erythema induratum of Bazin (tuberculosis indurativa).
   5. Sarcoid of Boeck.
   6. Angiolupoid.

C. Lesions in which the presence of the tubercle bacillus is suspected, but as yet undemonstrated.
   1. Lichen nitidus.
   2. Erythema.
   3. Exfoliative erythrodermia.
   4. Lymphogranulomata.
   5. Lupus erythematosus.
   6. Lesions falsely named "tuberculosis of the skin."
      (a) Angiokeratoma Mibelli.
      (b) Parapsoriasis.
      (c) Psoriasis.

To these last might have been added the tubercle-like formations following some weeks or months after the introduction of foreign materials into the skin, such as hard or soft paraffin, camphor oil, cactus spines, and a number of others—though tubercle bacilli are sometimes found in them.

A more simple classification, as used, with minor modifications, by many authors, is based upon the broad division into true tuberculosis and the tuberculids.

A. True tuberculous forms.
   1. Lupus vulgaris.
   2. Scrofuloderma.
   3. Tuberculosis verrucosa cutis.
   4. Tuberculosis orificialis.
   5. Tuberculous ulcers.
   6. Some cases of erythema induratum (Bazin).

B. The tuberculids.
   1. Lichen scrofulosorum.
   2. Acne scrofulosorum.
   3. Erythema induratum.
   4. Acnitis.
   5. Folliclis.
   6. Granuloma papulonecroticum (or papulonecrotic tuberculid).

The true tuberculous forms are usually defined as those whose dependence upon the tubercle bacillus as an etiologic factor has been thoroughly established; the tuberculids as those in which such an etiologic relationship is still in doubt. The distinction between the two groups, however, seems to be largely relative. Maloney[3] cites instances in which tubercle bacilli were found in lesions of lichen scrofulosorum, erythema induratum, and granuloma papulonecroticum, and he believes, from his own researches, that "acne agminata or acnitis, as well as many of the other tuberculids, is a true tuberculosis." MacKee[4] says of lichen scrofulosorum that "in recent years this affection has been removed from the tuberculids and placed among the cutaneous tuberculoses," while Calmette[5] states, in regard to the lesions of lichen scrofulosorum, that "at times bacilli are found in them and in all cases the individuals react frankly to tuberculin. This characteristic, furthermore, is one which is common to all true tuberculids and, naturally, to all forms of tuberculosis of the skin." As laboratory technic has advanced, and improved methods of culture and staining have been worked out, not only have tubercle bacilli been demonstrated in types of lesions in which they had not previously been found, but new forms of the bacillus have been discovered which are not acid-fast and which differ in form from the usual rodlike variety. This has resulted in the discovery of tubercle bacilli in lesions which were formerly considered of toxic origin, and these have been added to the list of true dermal tuberculoses.

Three main theories have been advanced with regard to tuberculids:

(1) That they are the result of direct local infection from without, the effects of which are modified by resistance of the individual and by characteristics peculiar to the skin. It is worthy of note, in this connection, that even in lupus vulgaris, the most common type of tuberculosis of the skin, the bacilli have become so modified or attenuated that no one has ever been able to inoculate lupus from one human being to another.[6]

(2) That they are produced by either bacteria or toxins carried to the body surface from foci of infection within.

(3) That they are due to an allergy produced by reinfection of an individual already the subject of tuberculosis, the invading bacilli being

destroyed by antibodies at the point of entrance, and the tuberculid caused by an endogenous reaction.

Since any one of the three main types of the tubercle bacillus is capable of producing tuberculous lesions in the human skin, it might be thought that at some future time a classification might be made, based upon the type of the invading organism, whether human or bovine or avian. But our knowledge of the commingling of the types and of the apparent transmutation of one type into another, under favorable conditions, would seem to preclude this. A number of investigators, especially in England, have found the human type most frequent in lupus vulgaris, with the bovine next in frequency. B. Lipschutz concluded, from his investigations, that lichen scrofulosorum is almost always due to the bovine bacillus, in contrast with lupus.[7] The avian type has been found in a variety of lesions. Calmette cites Lowenstein as having brought proof of a cutaneous form of tuberculosis produced in man by the avian type of bacillus, and quotes B. Lipschutz as asserting that avian bacilli are frequently to be found in certain forms of tuberculosis in man. Calmette himself says,[8] in treating on "the duality of human and bovine tuberculosis" that "we now accept the conclusions, confirmed by the majority of recent works, that *there exists only one race of tubercle bacilli in mammals (Bacillus tuberculosis mammalium)* and that its adaptation to the body of man or cattle—man and cattle being the two species of mammals most susceptible to spontaneous tuberculous infection—has brought about its separation, not absolute, however, into two types of bacilli representing certain differential characteristics: the *human type* and the *bovine type*." In a paper presented by Dr. Lydia Rabinowitch-Kempner at a session on the "Biology of the Tubercle Bacillus" at the 1926 meeting of the National Tuberculosis Association,[9] she refers to O. Bang, "who succeeded in transmuting cattle tubercle bacilli into avian ones, not only with respect to growth, but especially in regard to their pathologic properties," and states that "It is a well-known fact that in the classification of types the avian tubercle bacilli are more nearly related to bovine than to human bacilli," and that "old cultures of bovine tubercle after many inoculations will grow like those of the human type. A strict division of the several types is not always possible, as there are atypical intermediate strains. Atypical strains occur very frequently in cases of tuberculosis of the skin (lupus). The possibility is not to be excluded that under certain conditions a transformation of the primary type may take place in the human body." These findings, if thoroughly established, would seem to preclude the possibility of developing a classification based upon the type of the invading bacillus.

We conclude, then, that while the methods of classification of the lesions of tuberculosis of the skin which we now employ are perhaps, in the present state of our knowledge, the best we can provide, and while they form a practical working basis for the dermatologist, still they are not completely accurate from a scientific standpoint, and are not uniform—defects, however, which research will, in time, probably remedy.

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DIAGNOSIS OF TUBERCULOSIS CUTIS

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Tuberculosis cutis is the name applied to all cutaneous lesions caused by the presence of tubercle bacilli in the skin. Its manifestations and topography are as varied and as multiform as those of syphilis. The variance of the clinical features is dependent upon the number and virulence of the bacilli, the location of the lesion, and the general health and resistance of the patient.

Tuberculosis cutis is more prevalent on the Continent and in Great Britain than in the United States, although it is probably commoner here than statistics would suggest, due to cases passing unrecognized. No race is exempt, but the negro is the most susceptible. It occurs more frequently among the poor who are undernourished and living in an unhygienic environment. It may develop at any age, but usually begins in childhood. It is rare in infancy or after middle life, and is more common in females than males. Certain professions and trades, such as pathologists, deeners, nurses, and butchers, are especially liable to develop the disease from direct contact with tuberculous material.

To prove that a skin lesion is tuberculous requires that the tubercle bacilli be found in the histologic sections, and that animal inoculations produce the disease. The pitfall in the laboratory diagnosis of tuberculosis is that negative animal inoculation is not conclusive, and that it is difficult to differentiate histologically between

tuberculosis cutis and the tertiary syphilid. The method of diagnosis by animal inoculation and the histologic diagnosis of tuberculosis cutis will not be discussed.

When obvious tuberculous stigmata are absent, the injection of old tuberculin may be used, although its value is very limited. Intradermal injections of the old tuberculin of Koch are employed. Up to one year of age a positive reaction signifies disease, and after that infection. The one great danger in using old tuberculin is that it may activate a quiescent focus of the disease.

Clinical Diagnosis

Primarily, the diagnosis of tuberculosis cutis depends upon the clinical appearance of the lesions, substantiated by a carefully conducted physical examination which is supplemented by complete x-ray studies to determine the existence of active, healed, or latent tuberculosis of the viscera or bones.

The essential general clinical features are as follows: (1) color, reddish-brown to a purplish hue; (2) the lesions are more frequently pliable than indurated; (3) low-grade inflammation; (4) infiltration; (5) very slow evolution; (6) tendency to ulcerate or form numerous warty excrescences; (7) frequent association with tuberculosis in other organs.

Fig. 1. Early patches of lupus vulgaris. These lesions are reddish-brown, soft, semitranslucent, infiltrated, and composed of confluent nodules. When pressure is made with a glass slide (diascope) over one of the nodules, a brown spot remains in the skin, the color of which is likened to apple jelly; hence, the term "apple-jelly nodule." This feature is of considerable diagnostic importance.

The cutaneous lesions definitely proved to be due to the presence of the tubercle bacilli in the skin are: lupus vulgaris; tuberculosis verrucosa cutis, including verruca necrogenica; scrofuloderma, including scrofulous gummata and tuberculous lymphangitis; tuberculosis cutis orificialis; erythema induratum (Bazin's disease); lupus pernio.

Lupus vulgaris is the most common form of tuberculosis of the skin. It occurs most commonly on the exposed surfaces of the body, the site of predilection being the face, particularly about the nasal orifices, the cheeks, and the ears. Occasionally it is seen on the dorsa of the hands, arms, legs, and buttocks. It seldom affects the scalp, and infrequently the trunk, palms, or soles.

The onset usually occurs in childhood, although it may begin in adult life. The mucous membranes of the nose and mouth are involved in about 50 per cent of the patients. The disease, as a rule, extends from the mucous membrane on to the adjacent skin, although occasionally the skin is first affected. This malady is characterized by patches of brownish-red, semitranslucent nodules. When pressure is made by a glass slide (diascope) on one of these nodules, a brown spot remains which no amount of pressure will eradicate. This brown spot has been likened to the color of apply jelly, hence the term "apple-jelly nodules of lupus vulgaris." This feature is of considerable diagnostic importance. The aforementioned nodules very gradually increase in size, and after a period of time, which may be years, ulcerate. The base of the ulcer, which is superficial and irregular, is bathed with a semipurulent exudation which dries, forming a crust.

The typical patch of early lupus vulgaris, as shown in figure 1, is definitely marginated, and is more or less round in contour. The lesions in this patient were composed of confluent nodules. Lupus vulgaris extends peripherally by the development of fresh nodules. These outlying nodules are well shown in figure 1. Healing usually begins in the center of a patch by the formation of a scar, which may be atrophic or greatly thickened and fibrous or even keloid in character. The degree of destruction of tissue and the ensuing deformity differs widely, and is dependent upon the amount of ulceration. It is particularly ruthless in tuberculous patients and in those patients in which the mucous membranes, especially the nasal orifice, are involved. Figure 2 gives the end result of a severe case, depicting how vicious the ravages may be. The nasi, including the soft parts and the cartilage,

Fig. 2. End result of a severe lupus vulgaris. The nasi, including the soft parts and the cartilage, are entirely destroyed, leaving a little drawn, pinched beak. The skin about the mouth is atrophic, with cicatricial puckering at the commissures. A few areas of activity are scattered over the scar tissue on the cheek, and a mass of keloidlike scar extends beneath the ear.

are entirely destroyed, leaving a little drawn pinched beak. The skin about the mouth of the patient shown in figure 2 was atrophic, with cicatricial puckering at the commissures. This is characteristic of the end results of lupus. A few areas of activity were scattered over the scar tissue on the cheek, and a mass of keloidlike scar extends beneath the ear. Fortunately, we rarely see such extensive deformity resulting from lupus in America, because of the rarity of the disease in this country, but it is not infrequently seen in Europe.

Lupus vulgaris may be confused with tertiary syphilid and lupus erythematosus. Lupus differs from the tertiary syphilid in that it presents the so-called apple-jelly nodule and is less indurated and more deeply infiltrated. The patch is usually irregular in outline, while that of syphilis is usually annular or crescentic. Syphilis involutes under mercury and bismuth, while lupus vulgaris remains unaffected. The lesion of lupus erythematosis does not have the dusky hue of lupus vulgaris, and is not infiltrated or nodular. The sebaceous ducts are widely dilated and are covered by adherent gray scales, and involution takes place by scar formation not preceded by ulceration.

In *tuberculosis verrucosa cutis* the infection usually occurs by direct inoculation from handling contaminated material, such as tuberculous sputum, infected tissues, and tuberculous cadavers. The face and hands are particularly liable to contamination.

The lesions begin as hypertrophied warty papules, which enlarge peripherally and coalesce with adjacent lesions to form rounded verrucose patches. The lesion may be single or multiple, occurring as a generalized eruption, especially in the extremities and buttocks, when they are of hematogenous origin. Figure 3 shows one such lesion on the thigh. The patient was colored, aged 9, and presented lesions of tuberculosis verrucosa cutis on the upper arm, shoulders, buttocks, and thighs, ranging in size from ¼ to 1 inch in diameter. They were well-rounded, elevated, infiltrated warty excrescences, piled high with dirty, horny crusts. The histologic picture was typical of tuberculosis.

Tuberculosis verrucosa cutis includes verruca necrogenica (anatomical wart), which occurs on the fingers and dorsum of the hand, resulting from direct inoculation of tubercle bacilli. The disease is characterized by a reddish papule which gradually undergoes a verrucose change and persists indefinitely. The infection usually develops in pathologists, deeners, butchers, and those who come in direct contact with tuberculous matter.

Scrofuloderma, which usually occurs in early life, designates those cases in which involvement of the skin is secondary to tuberculosis of the lymph glands, lymph nodes, bones, and joints. The most frequent situation is the region of the cervical glands, being associated with a tuberculous adenitis, as shown in figure 4. The affected skin is a reddish-purple hue, edematous, and, in places, adherent to the underlying swollen and infected tissues. In a well-established scrofuloderma, there may be one or several sinuses discharging upon the surface. The skin about the sinus has a bluish, sodden appearance, and there is usually considerable ulceration. The

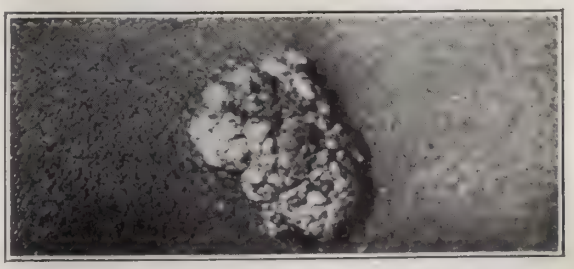

Fig. 3. Tuberculosis verrucosa cutis. The patient, who was a colored girl aged nine, presented a number of such lesions, ranging in size from a quarter-inch to one inch in diameter, on the upper arms, shoulders, buttocks, and thighs. The lesions were well-rounded, elevated, infiltrated, warty excrescences, piled high with dirty, horny crusts.

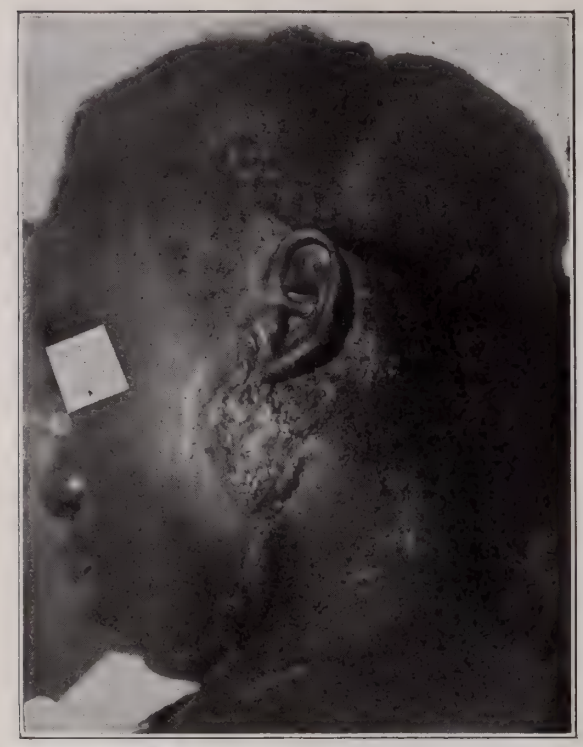

Fig. 4. Typical scrofuloderma associated with a tuberculous adenitis. The affected skin is a reddish-purple hue, edematous, and in places adherent to the underlying swollen, infected tissues. There are several sinuses, and considerable ulceration with crusting. The lesions heal spontaneously, leaving disfiguring, puckered, keloidlike scars.

base of the ulcer is irregular, suppurated, and crusted. The significant features of scrofuloderma are: extremely slow course, low-grade inflammation, and tendency to ulcerate and form sinuses. A furuncle which does not heal in the usual period of time should suggest the possibility of scrofuloderma. The lesions may heal spontaneously, leaving disfiguring, puckered, heavily corded, keloidlike scars, or may persist practically unaltered for years.

Tuberculous gummata are another variety of scrofuloderma. The disease begins as small indurated, nonmovable, deep-seated nodules, which slowly and painlessly enlarge and necrose or suppurate. They develop independently of tuberculous adenitis. The process is very sluggish, and involutes with a depressed scar. The malady usually occurs in infants and children, most frequently attacking the legs and buttocks.

Tuberculosis cutis orificialis frequently is secondary to tuberculosis of the viscera, developing on the skin contiguous to the mucous membrane about the mouth, anus, or genitalia. The lesions are superficial, more or less irregular in contour, and suppurating. Commonly, there is considerable crustation. The condition is exquisitely painful, particularly in patients in whom the mouth is involved.

Erythema induratum (Bazin's disease) is now classified as a true tuberculosis cutis, although tubercle bacilli have never been found in the nodule, but the organism has been demonstrated by inoculation by a number of investigators. The histologic structure is definitely that of tuberculosis. The disease usually occurs in girls between puberty and twenty-one years of age who are in poor physical condition. It is characterized by reddish-purple subcutaneous indolent indurations, situated for the most part on the calves and anterior extensor surfaces of the legs (see figure 5). After an indefinitely long period of time, the nodule is gradually absorbed, leaving a brownish purple stain, or necrosis may take place with the formation of an ulcer. This ulcer presents undermined margins, a base covered with grayish, unhealthy granulations. The lesion is surrounded by a purplish pigmented areola. The process is not painful. Healing is accomplished by the production of an irregular depressed scar.

The differential diagnosis concerns syphilitic gummata, varicose ulcer, and erythema nodosum.

Syphilitic gumma occurs later in life, is unilateral, ulcerates more rapidly, forming typical punched-out ulcers (see figure 6), usually involves the upper third of the leg, may be asso-

Fig. 5. Erythema induratum (Bazin's disease) is characterized by reddish-purple subcutaneous indolent indurations, situated for the most part on the calves and anterior surfaces of the legs. After an indefinite period of time, the nodule is gradually absorbed, leaving a brownish stain, or necrosis takes place with the formation of an ulcer. The ulcers present undermining irregular margins and a base covered with grayish, unhealthy granulation tissue.

Fig. 6. Syphilitic gumma is unilateral, ulcerates rapidly, forming typical punched-out ulcers. It is not painful, and usually involves the upper third of the leg.

ciated with other syphilitic symptoms, and responds to specific treatment.

Varicose ulcer is usually a single lesion, unilateral, involves the lower third of the leg, and frequently there is a history of being preceded by dilated tortuous veins, atrophic skin, eczema, and then the ulcer.

Erythema nodosum is characterized by deep-seated, acutely inflammatory, painful nodules, situated more frequently on the anterior surface of the legs, and pursuing a rapid course. The nodules do not ulcerate. Constitutional symptoms are usually present.

Lupus pernio, which is usually associated with constitutional tuberculosis, appears as a diffuse purplish or cyanotic swelling which occasionally goes on to necrosis with ulceration (see figure 7). The fingers, nose, and ears are the sites of predilection. This disease occurs in patients with sluggish peripheral circulation and vasomotor disturbances.

Tuberculids constitute that group of skin diseases occurring in some instances in patients with demonstrable tuberculosis. The skin lesion, or so-called tuberculid, is thought to be due to toxins from a tuberculous focus. The tubercle bacillus has never been demonstrated in any of these lesions, and animal inoculation has been negative.

The tuberculids are as follows: lupus erythematosus, lupus erythematosus disseminatus, papulonecrotic tuberculid, lichen scrofulosorum, sarcoid of Boeck.

Lupus erythematosus is an intractable affection. It occurs more frequently in women than in men, developing in adult life. The pathogenesis of lupus erythematosus has been extensively studied, and there is still a wide divergence of opinion. It is considered by some to be a tuberculid; by others, tuberculosis cutis; and by still others, as having no association with tuberculosis. The hypothesis that lupus erythematosus is a tuberculous process led to its treatment with gold, and the fact that many have been improved or cured by gold therapy has done much to lend support to this hypothesis.

This disease is distinguished by circumscribed reddish patches which occur more frequently on the face, and which subside by undergoing atrophic changes, leaving a thin, whitish scar.

There are two types of the disease: (1) circumscribed or discoid, which is very chronic in its course; (2) disseminated or diffuse, which is more or less acute in its course, developing (a) from the chronic discoid variety, (b) acutely, without previous lesions being present.

The discoid type usually appears on the face, the classical situation being the bridge of the nose and the malar prominences of the cheeks, as shown in figure 8. From this distribution is derived the name "butterfly disease." The ears, scalp, and dorsa of the hands may be involved. The mucous membranes of the mouth and nose may be attacked, either by extension from the skin or independently. The disease is nearly always bilateral and symmetrical in its distribution.

It first appears as a tiny erythematous macule.

Fig. 7. Lupus pernio appears as a diffuse purplish or cyanotic swelling which occasionally goes on to necrosis with ulceration; the fingers, nose, and ears are the sites of predilection. This patient had pulmonary tuberculosis.

Fig. 8. Lupus erythematosus (discoid type) showing the classical distribution across the nose and the flush areas of the cheeks. It is distinguished by circumscribed reddish patches. The pilosebaceous ducts are patulous, and an adherent gray scar forms which dips down into the enlarged ducts, forming horny plugs. Healing takes place with the formation of an atrophic scar.

The lesion enlarges by peripheral extension, leaving the center of the patch pale and depressed. The pilosebaceous ducts are patulous, and an adherent grey scale forms which dips down into the enlarged ducts, forming horny plugs. The condition, which may go on indefinitely, heals with the formation of an atrophic scar. The patches may be pliable and level with the adjacent skin, or may be infiltrated, especially along the margins. In some cases of long duration, the color changes from the red hue to a violaceous cast with the deposit of more or less brown pigment.

The disseminated type is much more acute and widely distributed than the discoid. It may start as an exacerbation of the discoid variety, the eruption rapidly becoming more or less generalized and being accompanied by constitutional symptoms, particularly pulmonary symptoms, and the patient dies. In the second type of lupus erythematosus dissematus, the lesions appear with the suddenness of an exanthema, coming out as erythematous macules which rapidly become edematous, increase in size, and coalesce to form larger patches. The lesions appear first on the face, and may be so swollen as to resemble erysipelas. The eruption may immediately become generalized. The onset and course of this malady is so drastic as to suggest an acute toxemia. It usually terminates fatally in a few weeks.

Occasionally the disease must be differentiated from lupus vulgaris, acne rosacea, seborrheic dermatitis, and erythema multiforme. Its differentiation from lupus vulgaris has been discussed. Acne rosacea is not sharply demarcated, presents papules and pustules, and does not scar. Seborrheic dermatitis is covered by a loose greasy scale, unlike the gray adherent scale of lupus erythematosus, and does not scar. Erythema multiforme is not so chronic, and does not undergo atrophic change.

Papulonecrotic tuberculid (see figure 9) is a chronic inflammatory process, characterized by subcutaneous nodules which tend to necrose and leave a well-defined variola-like scar. It affects males and females in an equal ratio, and occurs most frequently in the third decade, but it may occur before puberty, even affecting infants.

The nodules, as they become more superficial, assume a purplish, indolent appearance, and after several weeks undergo necrosis. The eruption is symmetrical, the sites of predilection being the extensor surfaces of the arms, the dorsa of the hands and feet, the face, buttocks, and legs. It occurs less frequently on the trunk and ears, and rarely on the palms and soles. Occasionally, it is limited to the forearms.

Fig. 9. Papulonecrotic tuberculid is a chronic inflammatory process which tends to necrose, and leaves a well-defined variola-like scar. The eruption is symmetrical, the sites of predilection being the extensor surfaces of the arms, the dorsa of the hands and feet, the face, buttocks, and legs.

Fig. 10. Sarcoid of Boeck is characterized by one or more definite flesh-tint or reddish-brown nodules occurring principally on the face. The histologic picture is absolutely diagnostic.

It is sometimes necessary to differentiate the disease from acne vulgaris. It is more chronic in appearance, is not associated with comedones, but often is associated with other stigmata of tuberculosis.

Lichen scrofulosorum is a chronic inflammatory affection occurring generally in tuberculous children. It is invariably associated with some other forms of tuberculosis, such as adenitis, osteomyelitis, and visceral tuberculosis.

The disease is characterized by the presence of minute discrete conical papules, varying in color from a flesh tint to a reddish brown or even a livid hue. The papules are arranged in irregular groups, often simulating finger prints, which may aggregate into larger patches. The lesions are usually situated on the lower sides of the trunk, and occasionally on the shoulders, arms, buttocks, and legs. The distribution is symmetrical. The surface of the papules may be smooth or surmounted by a tiny scale. It is important to note that the individual lesions never coalesce. The lesions involute, leaving a brown stain, but ultimately no scar.

There is considerable discussion as to whether this disease is a true tuberculosis cutis or a tuberculid. To support the former view, we have the demonstration of tubercle bacilli in the lesions of a few cases, along with successful guinea-pig inoculation, and its close analogy with the follicular syphilid. To support the latter view, we have its accidental occurrence by injection of tuberculin in tuberculous subjects and not in other patients.

The diagnosis of lichen scrofulosorum may be very difficult, the most important differentiation being that from the follicular syphilid, from which it is distinguished by the distribution (the syphilid being a generalized eruption), the absence of accompanying syphilitic stigmata, and the age of the patient.

Sarcoid of Boeck is characterized by the presence of one or several definite flesh-colored or reddish-brown nodules, occurring principally on the face (see figure 10) and occasionally on the arms and legs. They may be cutaneous or deeply placed in the subcutaneous tissue. The diagnosis can always be established by biopsy, the histologic picture being absolutely diagnostic. The cause is debated, but some authorities consider it to be of a tuberculous character.

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THE TREATMENT OF TUBERCULOSIS OF THE SKIN*

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A discussion of the treatment of the skin manifestations of tuberculosis entails, first, a differentiation between the management of a definitely localized skin lesion and one which is or might be associated with tuberculosis located elsewhere in the body. It is evident that an acute miliary tuberculosis of the skin is entirely beyond the scope of external treatment, whereas postmortem warts are eminently suited for such a procedure. Between these two are lesions which require treatment suited to the needs of the individual case with regard to external applications and general remedies. As has been mentioned by previous speakers, some lesions are always accompanied by internal tuberculosis and others rarely. In the former cases internal or general treatment is demanded, and in most others it is not harmful and may be of great benefit, even when tuberculosis of internal organs is not demonstrable.

A search of the historical literature concerning the treatment of tuberculosis of the skin reveals the fact that many of the conditions treated as scrofula were no doubt other conditions causing chronic manifestations on the skin surface. The inefficiency of the various remedies can be judged by their multiplicity, and in many cases their bizarre nature. These characteristics are

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to be noted both as to internal and external remedies, both of which, even in ancient times, were believed necessary in the treatment of these chronic conditions. It might be added that only relatively slight changes have taken place as regards treatment in modern times. In the published textbooks and manuscripts about the beginning of the nineteenth century one finds alum, sulphur, niter, cabbage, elm bark, dung of goats, mice, and foxes, urine, bear gall, and various roots and mineral substances mentioned as beneficial remedies. Quicklime was used, both internally and externally. The varieties of caustics were many, but the most popular were the paste of Frère Comé, an antimony mixture, and the animal oil of Dippel, a product resulting from the destructive distillation of horns, hoofs, bones, and other animal substances. Although some of the preparations used differed from those today, the rationale of treatment was the same; viz., to destroy entirely the external manifestations of the disease without, if possible, injuring normal tissue and, at the same time, to care for the patient's general health in order to obviate fresh outbreaks—in other words, to increase his resistance against the disease.

As regards both ancient and modern remedies, time and interest forbid anything like a complete list, but mention of a few of each will give interesting and unflattering comparisons.

About 484 B. C., Heroditus extolled the virtues of sunlight in the treatment of scrofulous conditions, and fortunately his findings can still be corroborated, not only in regard to general treatment but also in treatment of local lesions. One finds glowing reports in the literature today of the value of ultraviolet radiation, both general and local. The majority feel that for local treatment the Finsen light is superior to the mercury-vapor lamp, but as the Finsen light has not been used in this vicinity, nor have other local measures superior to the mercury-vapor lamp, I can report only by hearsay. However, in industrial sections of our crowded country, where during a great part of the year sunlight is at a premium, the mercury-vapor lamp is a great blessing, for it is cheap and easily handled. Gradually increasing general ultraviolet radiation is of unquestioned benefit in most of these conditions. Calcium salts need only be mentioned as another remedy which has been handed down to us, but its use internally probably has no effect on local lesions. Cod-liver oil is another general remedy which still retains its well-merited popularity. Erasmus Wilson in 1857 quotes M. Lemery who gave this in increasing doses up to two pints a day, evidently believing that if a little was good, more would be better. It is hardly necessary to mention that not only cod-liver oil but also an increase of fats in the diet is of undoubted benefit to all patients who have internal tuberculosis.

The internal administration of gold compounds, which at the present time are being widely used due to better preparations, is not new, as both gold and mercury were used as early as 1500 by Paracelsus. Whitehouse and Bechet speak of their use in syphilis in 1812, and gold as well as copper has appeared in the literature from time to time since as a remedy for chronic infections. Koch in 1890 said that gold compounds inhibited the growth of tubercle bacilli, which statement von Behring corroberated. This led to more attempts to evolve a suitable compound, and for a while many varieties of gold and copper were tried, with varying results. Forsch in 1917 said that gold influenced skin tuberculosis favorably, but did not cure. Schamberg, Harkins, and Brown found gold sodium thiosulphate to be the most easily assimilable nontoxic remedy, and reported good results in some cases, as also did Whitehouse and Bechet. However, their work, other reports, and personal experience have shown that the most brilliant results with this compound are to be obtained in tuberculids, so that we must bide our time until further results are obtained before lauding or condemning this remedy as a beneficial agent in tuberculosis. Injections of gold, according to some workers, are sometimes followed by a general reaction. Our dosage has been 0.1 gm. of gold sodium thiosulphate, and in quite a large series of injections we have seen few reactions save immediate psychic ones, and one case in which a number of injections was followed by an erythematous macular eruption. Higher dosage may be the cause.

From personal experience I can say nothing regarding tuberculin, as I have never given a therapeutic injection of this substance. It would seem from the masses of contradictory literature that either the remedy or the method of use is not all that could be desired, for many methods of using a number of different preparations have been tried and none have been satisfactory to more than a small group of workers. Reports on the defatted vaccine are few and far from encouraging.

Thus, though we agree with Willan that general remedies are not only necessary but effective, we have but two, sunlight and fresh fatty substances, which are of definite value. Local remedies, it can be repeated, have always aimed to destroy diseased tissue, doing at the same time as little harm as possible to surrounding normal tissue. After surveying the older reme-

dies one agrees with the excellent dictum of Piffard who says "Do not waste time with stimulating inefficient caustics," but, given the use of an efficient remedy, one may add the statement of Volkmann quoted by Ziemssen, "It must be admitted that much more depends on how these various measures are employed than on what particular agent is used." With general treatment the indications and methods of using remedies are similar in all cases, but with local treatment the type of lesion will often be of such a different gross structure that remedies, though vastly different in type and method of application, may give parallel results. However, let us speak of a few of the most widely used remedies first and their various applications later.

Scarification and curettage have been methods of destruction that have been popular in many places, particularly in France. They are condemned by some who believe that they open blood vessels and thus allow opportunity for dissemination of organisms. One can conceive a pussy gland breaking through the wall of a blood vessel and accomplishing this purpose, but considering the mechanics of the circulation, this danger from mechanical destruction of a surface lesion seems much overestimated. Further, with complete curettage the possibility would be nil. This method is very much more effective if followed by some fairly powerful chemical agent. Potassium permanganate is one which, from personal observation and from the literature, can be recommended as very valuable. D. Kachanovsky used freshly powdered, dehydrated potassium permanganate in a layer 3 to 5 mm. thick, and reported excellent results, which work has been corroborated by many men since.

Acid nitrate is another remedy of great value in localized lesions of the skin, particularly in small and medium-sized patches. When applied freely to a lesion, pain is great, but often one application is sufficient to bring about an eradication of the disease process, and the resulting scar is very presentable. Weaker chemicals should always be preceded by a thorough curettage. With all chemical applications, reactions, though varying in intensity with the type of chemical used, are severe, at least from the standpoint of the patient. However, results are so satisfying that this cannot be considered as a contraindication.

Actual cautery cannot be too highly recommended as a destructive agent, particularly in lesions having small areas. With this, the operator has absolute control over the amount of destruction, and the danger of burning too wide or too deep is much less than when using chemicals. With the cautery should also be mentioned the various types of electric sparks which are well-adapted to treating these lesions. Excellent results can be obtained in all varieties of lesions by first devitalizing with the spark, and then applying milder chemical dressings such as potassium permanganate, pyrogallic acid, etc. Personal experience recommends potassium permanganate as an excellent and safe dressing following any of the above-mentioned procedures.

In spite of many adverse reports, I believe radium and, in a few cases, massive dosage of x-ray are very effective in staying the disease, and the resulting scars are very slight. Dr. Guy and I have used radium in destructive doses in a number of cases, and we have found that it gives very satisfactory results. Radiant energy in this form has the great advantages of ease of application and painlessness to recommend it above all other remedies. Here we may repeat that the method and dose are of exceeding importance. Silver, carbon-dioxid snow, trichloracetic acid, phenol, and numerous other caustics might be mentioned, but only from hearsay, as we have had little experience with them.

The method of Unna and others of impaling with a chemically soaked thorn, reaming with a dental drill, or in other ways destroying the individual tubercles at the edge of a lesion is suited only to very small patches. Unna recommends in this method the use of oil of cloves and aniline oil to clarify the skin and cause the tubercles to stand out more prominently.

Summary

Lupus vulgaris may be considered a local disease save in very extensive cases or where general disease is demonstrable. Destruction can be accomplished by any of the above-mentioned methods, but must be complete. Even in well-treated cases, recurrences both at the edge and in the center are common. Tuberculosis verrucosa cutis and postmortem wart are similar to lupus vulgaris in regard to treatment, and recurrences are not common.

Tuberculosis orificialis requires both general and local treatment. Locally, it is an excellent lesion for treatment with physical agents. Being located at the more sensitive parts of the body, the prolonged action and pain of chemical applications is very trying to the patient. These are cases well suited to x-rays and radium. Tuberculosis ulcers of the tongue respond readily to moderate doses of radium, and Morrow found cautery gave excellent results.

Scrofuloderma requires, of course, the treatment of the underlying tuberculous structure, as well as general and dermatologic treatment. Some cases require surgery. Glands will often

be found which respond readily to small, often-repeated doses of x-ray, but occasionally a case requires both x-ray and surgery. Plenty of sunlight and cod-liver oil will be found to be beneficial.

Bazin's disease also requires general remedies, with local applications of mild chemicals, if any, and small doses of x-ray but larger ones of ultraviolet rays.

Unfortunately, results vary greatly, even with the best of care, so that dogmatically to state that any particular procedure is the best is impossible. Tuberculosis of the skin, in common with tuberculosis of other organs, is a slow, insidious, but exceedingly persistent infection, warranted to cause many furrows in the brow of the physicians who care for its victims.

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ABSTRACT OF DISCUSSION

Of Symposium on Tuberculosis of the Skin

WILLIAM H. GUY, M.D. (Pittsburgh, Pa.): As pointed out by Dr. Miller, the classifications used at the present time are subject to change as future developments may determine. Thus, some clinical condition now considered to be a tuberculid may prove to be due to the presence of the tubercle bacillus. For instance, some of the sarcoids may be demonstrated to be of definite tuberculous structure by virtue of the presence of tubercle bacillus that has changed its staining reaction in such a way that it cannot be demonstrated by means now at our command.

FRED D. WEIDMAN, M.D. (Philadelphia, Pa.): No classification can be expected to be final. The balance of resistance between the individual, on the one hand, and the activity of the organs, on the other, are the factors which, in a general way, determine the difference in appearance of the various lesions seen in tuberculous affections. I believe some day it will be shown that the tissues of different individuals react in a manner different from the reaction of others, just as the tissues of birds are known to react against a foreign irritant differently from tissues of reptiles. Possibly the cells respond in different numbers, perhaps the tissues respond with different types of cells against the same irritant, and the difference in the form of these cells is not an indication of the absolute degree of resistance on the part of the individual, but a qualitative affair.

It is frequently difficult to differentiate histologically between tuberculosis and syphilis. There are all gradations between the typical and the atypical, both in tuberculosis and in syphilis, and frequently they overlap. In the majority of cases the pathologist is unable to state unequivocally which disease is present. And this problem does not end here. A tuberculoid architecture extends to numerous other dermatoses. Giant cells will sometimes be found in nonspecific ulcers. Recent descriptions of tularemia mention a tuberculoid tissue reaction. The latest addition to the list is a condition that has often been called painful subcutaneous tubercles, which is of a rheumatic nature. I believe that erythema elevatum diutinum will eventually be shown to belong to the same class.

LESTER HOLLANDER, M.D. (Pittsburgh, Pa.): In eight cases I used gold sodium thiosulphate with great caution, giving one fourth of the dose contained in the ampule, that is 0.025 gm., diluted as recommended by Dr. Schamberg. In three of these severe reactions occurred.

The first was a patient with lupus erythematosus of the nose of the superficial erythematous type. It apparently responded very well to the medication. After the fourth injection of 0.025 gm. of the drug, which was given at ten-day intervals, the patient developed a swelling of all her extremities. I immediately put her to bed and started her on sodium thiosulphate. This girl went through a regular course of exfoliative dermatitis. She was very ill, had an acute nephritis, and was in bed for about sixteen weeks.

At the same time I was treating a case of lupus erythematosus in a child. After the third injection she developed a marked and severe icterus, and was very ill for three weeks.

In the third case there was a nodular eruption over the anterior surfaces of the tibiæ, which was very painful and resembled an erythema nodosum.

After these experiences I was afraid to use gold again, even in doses of one fourth of the ampule.

The reaction from gold must be similar to the tuberculin tissue reaction which we used to get when large doses were used. I believe that much smaller doses than those recommended by Dr. Schamberg should be used in the treatment of tuberculous conditions such as lupus erythematosus. I have attempted this in a couple of cases in conjunction with the x-ray, and have had rather promising results.

A SURVEY OF THE SEMIBLIND SCHOOL CHILDREN IN THE CITY OF PHILADELPHIA*

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It may be desirable to begin this paper with the motives that prompted the survey, and a statement of reasons for submitting the results before this Section. While similar conditions exist in many states, the facts offered refer chiefly to our own State of Pennsylvania.

By acts of Legislature, education is compulsory between the ages of six and sixteen years. There is, however, a small percentage of child population which, because of mental or physical incapacity, is unable to reap the benefits of the splendid opportunities offered in the public schools. The law does not relieve any child from school attendance unless it has been definitely proved to be unteachable and untrainable. These exceptions are chiefly children who are suitable for institutions. Many mental and physical defects exist that incapacitate children from acquiring education by our ordinary school methods but still permit them to be taught and trained by specialized methods.

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*Read before the Section on Eye, Ear, Nose, and Throat Diseases of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 5, 1927.

In the State of Pennsylvania, an act of July 22, 1919, imposes certain and special duties upon the educational administrators. It is the duty of these educators to formulate plans for the proper and safe education of these handicapped children. The problem is met by special classes, curricula, and teachers. The crippled children are transported in busses, and their capabilities met; the deaf children are segregated, and the sense of vision and touch are utilized to replace lost hearing; the cardiac, malnourished, tuberculous, and those with defective speech each receive special educational facilities. The children who are incapacitated because of semiblindness are similarly offered special education in what are commonly termed "sight-saving" or "conservation-of-vision" classes. These demand special equipment and specially qualified teachers.

The use of the term "semiblind" here refers to those children whose visual acuity is so low and uncorrectible, or the physical condition of whose visual organs is so defective as to render it unsafe to use them in ordinary school methods. The totally blind child is amply cared for in institutions established by the State. The child not blind enough to be eligible for an institution, yet who has insufficient vision to progress in the regular classes of a public-school system is the type included in the provisions of the law.

Divers standards of semiblindness have been adopted by the various cities and states. Philadelphia accepts as eligible for admission to sight-saving classes those who have a visual acuity of 15/70 or less, permitting the use of both eyes and employment of the best possible correcting lenses; also cases of a high degree of myopia and other pathologic eye conditions that are progressive and destructive.

Effectively to meet the requirements of the law, the following measures must be carried out: (1) The detection of all serious eye defects. (2) The correct diagnosis, recommendation, and treatment. (3) The organization and proper conduct of special classes for conserving vision.

A more or less effectual sifting of cases is accomplished by the highly organized systems of school medical inspection, but the only completely effective method is by the services of ophthalmologists. The school physicians have determined with fair accuracy the percentage of uncorrected cases of defective vision existing in a school population. It is, however, beyond their limited skill in the diagnosis of eye defects to determine accurately the number of cases of uncorrectible visual defects.

The ophthalmologist will sooner or later be called upon to offer his expert opinion and assistance on the following problems: (1) The extent of disability among school children, due to pathologic eye conditions. (2) The uniform standards on kind and degree of eye defects which should be adopted for admission to special classes. (3) The devising of educational methods and equipment suitable for training such children. (4) The preparation of practical lessons on hygiene of the eye that may minimize dangers and preserve vision. (5) The medical examinations and supervision of the children who are enrolled in sight-saving classes. (6) The preparation and direction of semiblind children into useful vocations which offer the least danger to visual safety.

No large city has previously endeavored to answer the above problems. This survey was an endeavor to determine accurately and fully the number and kind of serious eye defects in the school population of Philadelphia, to find all potential cases requiring placement in "sight-saving classes," and also to urge treatment where visual acuity could be improved by lenses or other remedial measures.

Methods of Procedure

Philadelphia has an enrollment in the elementary schools of approximately 210,000. In order to discover every child having a visual acuity of 15/70 or less, permitting the use of correcting glasses when worn, a threefold selective process was adopted. The visual acuity of each child had been recorded by the medical inspectors in routine physical examinations. Lists prepared from these school records showed that about 4,000 children possessed vision of 15/50 or less. The names of each of these poor-vision patients were submitted to the ten district medical supervisors. They reëxamined the 4,000 children to furnish corrected lists containing the names of those having a visual acuity of 15/70 or less. This check-up gave a list of 1,000 children scattered throughout the city. The object of checking those with vision of 15/50 was to catch all of the borderline cases.

A report was sent to me of every school in Philadelphia. These lists comprised, for each case, name, age, grade, sex, color, visual acuity with or without glasses and such medical data that may aid in diagnosis and recommendation. Each school was visited by me and the reported cases carefully examined. After discarding a number of cases for various reasons, and because some had better vision than recorded, there remained 750 children who required an intensive and careful examination. The results of these examinations are the basis of this report.

A special portable equipment offered all the needed facilities for the work. A portable dark room was devised from three-foot lengths of

gas pipe. Over this frame work was thrown a black and opaque material that covered top and sides, but left one side for an entrance. This tent gave a dark room 3 feet wide, 6 feet high, and 6 feet deep, and folded into a very small portable package. An electric ophthalmoscope and retinoscope, a portable lamp, a small case of test lenses and several of the smaller instruments needed in office work completed the outfit. The tent was used only in schools where a closet or room suited for dark-room purposes was not available.

Each of the 750 seemingly semiblind children was carefully examined with an ophthalmoscope and with retinoscope and trial lenses, and a preliminary refraction was made. With the exception of 84 children, all could be given useful or normal vision, and showed no gross pathologic conditions. While a few required added and medical treatment, all could be corrected by means of refraction and use of lenses of moderate strength.

While but 49 of the cases were suitable for admission to sight-saving classes, we may include the entire 84 in estimating the total semiblind in the school population. With 171 pupils previously enrolled in such classes, the ratio of visually incapacitated children to school population would be one to each thousand.

Ophthalmologists are frequently consulted not only on the treatment of semiblind school children but also regarding their education. Parents desire to know if the regular or ordinary school methods may be detrimental to the child's eyes. Where conservation-of-vision classes exist, the specialist should know the requirements for admission and the methods of conducting the classes. In the United States there are 264 sight-saving classes, distributed in 77 cities and 19 states. Unfortunately, neither the requirements for admission, nor the conduct of conservation-of-vision classes are uniform. Before advising parents in reference to the education, the physician should give the child the best possible vision with safety in use of the eyes. These children usually fail to progress by ordinary school methods and equipment. Special education conserves the already failing vision, emphasizes the need of proper hygiene of the visual organs, and guides as well as prepares the semiblind for proper and useful vocations.

An analysis of the 675 cases that could be given useful vision is interesting. With the exception of 67 requiring compound hyperopic and 21 mixed astigmatic lenses, practically all of the cases were myopic. The majority of the myopes required from two to four diopters to correct. In 42 cases one or more diopters of minus cylinder was also needed. Sixty children had a vision of 15/70 or less with the use of glasses they were wearing. Of these, 37 were myopes undercorrected and requiring more minus sphere and cylinder; ten required the addition of plus cylinder; eight were overcorrected hyperopes; and five were wearing plus where they needed minus lenses.

It may be evident that the large ratio of myopes reported in this survey is not the normal ratio in ametropia among children. The reason for the seeming discrepancy is due to diagnosing the cases by taking visual acuity on the Snellen chart. Hyperopia, unless combined with considerable astigmatism, causes little interference with vision. It takes about four diopters of hyperopia to reduce vision noticeably in a child. Three diopters of myopia generally reduces vision to 15/70.

An analysis of 326 refractions in a school clinic may furnish a more correct idea of the ratio of the various refractive errors:

Simple hyperopia	141
Simple myopia	45
Compound hyperopic astigmatism	69
Compound myopic astigmatism	28
Hyperopic astigmatism	15
Myopic astigmatism	8
Mixed astigmatism	20

Ten cases of malingering were found. These required considerable time and effort to detect. The reasons for malingering may make an interesting psychologic study.

An analysis of the 74 cases in which vision could not be improved or serious pathologic conditions existed follows:

ANALYSIS OF 49 CASES RECOMMENDED FOR SIGHT-SAVING CLASSES*

Corneal opacities	11
High myopia	9
Compound hyperopic astigmatism with choroidal changes	4
Mixed astigmatism with choroidal changes	1
Retinochoroiditis	4
Amaurosis with nystagmus	7
Albinism with nystagmus	3
Congenital cataracts	7
Cataracts and corneal opacities	1
Coloboma of iris and choroid	1
Coloboma of choroid	1
Total	49

*The forty-nine cases recommended for sight-saving classes were chiefly corneal opacities, high myopia, and various congenital defects, including cataracts. The ten cases pending decision were held up because there seemed a possibility of improving vision considerably. Twenty-five children, though semiblind, were refused enrollment in sight-saving classes because mentality was extremely poor or extremely good. The extremely poor mentality and vision were associated with signs of associated central lesions. In the extremely good mentality the children had reached the higher grades in school and progressed without seeming harm to their eyes.

Cases Pending Decision

Potential Cases for Sight-Saving Classes

Optic atrophy	1
Amaurosis with nystagmus	4
Albinism with nystagmus	3
Compound hyperopic astigmatism	2
Total	10

Twenty-five Children Not Suited for Placement in Sight-Saving Classes

Mentality Very Poor

Amaurosis with nystagmus	4
High hyperopic astigmatism	1
Central lesion, restricted visual fields	1
Central lesion and spastic paraplegia	1
Central lesion and infantile paralysis	1
Total	8

Mentality Very Good

Pupils in higher grades and progressing in regular classes without harm to eyes:

High myopia	8
Corneal opacities	5
Albinism with hyperopia	3
Congenital cataracts (operated)	1
Total	17

The above classification based on mentality is made for the administration and the proper conduct of the classes. When mentality is very low with the added handicap of little vision, the child fails in obtaining an education and holds back the other pupils. Good mentality and progress in class is no logical reason for keeping a child out of sight-saving class unless there is assurance by the ophthalmologist that the regular class work is not detrimental to vision.

A detailed study of the existence of more than one child in the same family afflicted with markedly pathologic eye conditions was difficult because children from one family attended different schools. It was frequently noted, however, that there would be two or more myopes in the same family. Two brothers, aged 11 and 13, were afflicted with amaurosis and nystagmus, and had vision of 15/100. The mentality in the younger child was poor, but normal in the older. Three sisters, albinos with nystagmus, had high compound hyperopic astigmatism and vision about 20/200. These girls had excellent mentality, and progressed in school even though visually handicapped. They were in the normal grades for their ages; one reached the sixth, and another the eighth grade. Although vision in each case with correcting lenses was 20/100, there remained a useful near vision. This, together with good mentality, enabled them to keep up with their more fortunate classmates. The school progress of these children without any apparent harm to their visual organs warranted a decision to permit them to remain in regular classes.

Another interesting case of heredity appeared in a family of five children, four girls and one boy, ages 18, 14, 12, 9, and 3. Two of the girls, aged 12 and 14 years, have congenital cataracts of both eyes. In each case after several operations the vision remained 15/100 in each eye. A brother, three years old and not attending school, is likewise afflicted, but has not as yet been operated upon. Two sisters, one aged 9 years, attending school and one aged 18 years, now employed, have normal vision. The mentality of each member of this group is good. The two with cataracts were below grade in school due only to the physical handicap of poor vision. They were recommended for enrollment in sight-saving classes. They had not been placed previously because they came from New York State to Philadelphia about two months before. The school physician had as yet not examined them.

Few cases of poor vision with existing acute conditions were referred to me in this survey. Such cases are quickly detected by the teachers and referred to the visiting physicians. They are immediately sent home with a recommendation for treatment. The cases included in this survey are of congenital origin or the after-effects of disease.

Two patients had an interstitial keratitis of both eyes. The condition was active, and vision was reduced to 20/200. In both cases there was associated deafness, with hearing reduced to whispered voice at five feet. In both cases there was a four-plus Wassermann. These children were temporarily excused from school for treatment. The decision on whether to place such cases in a "sight-saving class" or "deaf class" depends on which defect clears up first. Generally the vision improves some time before the hearing, and temporary enrollment in a deaf class may soon be followed by restoration to regular class.

Because of the limited number of sight-saving classes and their dispersion in widely separated sections of the city, some children were required to travel distances. No bus transportation is furnished, but carfare is allowed, and in a few cases an older child is employed as escort. With present-day traffic congestion, there is added danger to very young children with very poor vision who are required to travel a distance to attend school. Five children aged six and seven years were withheld from enrollment, although the conditions of their eyes made them eligible.

One of the facts for emphasis in this study is

the existence of about 4,000 children with visual acuity of 15/50 or less with no endeavor on the part of the parents to seek treatment. The laws of the State make it mandatory for every child to receive each year a physical examination, including the eyes. In accord with this law, the school physicians diagnose and recommend for treatment, and the school nurses plead with the parents for action.

The finding of but 84 semiblind children additional to 171 enrolled in sight-saving classes in a school population of over 200,000 is a commendation for the careful and thorough work performed by the school physicians. During the school year ending June 30, 1926, the medical inspectors reported and recommended for treatment 22,800 cases of defective vision; there were also found 1,900 cases of strabismus and 30 cases of keratitis. During the school year ending June 30, 1927, 21,099 cases of defective vision, 1,815 cases of strabismus, and 10 cases of keratitis were diagnosed.

There is, however, no practical means of compelling parents to furnish the needed medical care. It is difficult to decide whether legislative action or educational campaigns to instill a realization of the dangers of uncorrected visual defects is the better procedure. I believe there never was a better opportunity than now to educate the public on eye hygiene.

Conservation of vision arrives at a rather late stage with the establishment of conservation-of-vision classes composed of semiblind children. Conservation should reach the child who needs correcting lenses or other treatment. It should also require the safest lighting of schoolrooms and the furnishing of material for writing and reading that admit the minimum amount of eyestrain. The improvement in school structures and equipment in the past five years has been most gratifying, but there still remain in some cities many examples of schoolrooms detrimental to vision.

In many of the large cities the educational authorities furnish more or less treatments in a few of the specialties. These free services are limited to those cases where the parents are too poor to pay. The need for furnishing free medical services by city or state departments has often been questioned. I believe the purpose of school medical inspection is amply met when the authorities furnish the best possible hygienic surroundings, protect against communicable diseases, render first aid, and recommend treatment after careful and complete physical examinations. The establishing of school eye clinics was found necessary in many large cities because the hospital clinics were inadequate to meet the demands of a large school population. I believe the establishing of special clinic hours for school children in addition to the regular service of hospital dispensaries would meet the needs in most cases.

The majority of treated defective-vision patients among school children apply for service at hospital dispensaries. No better refraction has ever been done than at present, but some poor work mingles with the good. It is not always due to lack of knowledge or technic, but may be owing to carelessness. This is sometimes noted from men from whom only the best work is expected. Of the sixty children wearing glasses that seemingly pointed to gross errors in refraction, one-half were treated at clinics or by private physicians and the other half by optometrists. We can forgive the optometrist for his shortcomings, as he lacks the knowledge and expert training to treat the unusual and complicated cases.

In practically all of the sixty cases refraction was done without use of a mydriatic. I do not mean to infer that failure to use a mydriatic interferes with obtaining best results. The need and kind of mydriatic depends on the character of the case and the skill of the examiner. I do believe, however, that gross defects in children are more correctly treated with a mydriatic, preferably atropin.

Another shortcoming frequently noted was the absolute dependence on retinoscopy without checking up by trying the patients before test cards during and after mydriasis. The additional time and effort required is well repaid. To ignore the subjective opinions of children when they claim symptoms or lack of vision with lenses that we choose by retinoscopy is a grave mistake. Many cases of refusal of children to wear prescribed glasses are due to errors in refraction and not negligence and stubbornness of the child. The need of assistants to perform refractions in clinics is evident, but some method of checking up by the chiefs of clinics, especially in complex cases, should be followed.

Many children handicapped with a marked loss of vision were questioned on the reason for failure to wear correcting glasses. The most frequent answer was that their "parents object" because glasses spoil the child's appearance or the child may break the glasses, and several variations in excuses. Objection on the part of the child was seldom voiced. Belief in Christian Science and other cults was given as an excuse in a number of instances. The extent of ignorance of the value of good vision emphasized the need of a practical education, with convincing lessons on some essentials of hygiene.

Previous to the survey for locating and studying the semiblind children throughout the city, an exhaustive examination was made of each of the pupils already enrolled in sight-saving classes. Philadelphia had 171 children attending thirteen classes distributed in various sections of the city. Several months were spent in studying these cases, as a result of which the following report and analysis is submitted.

Upon visiting a classroom, each child enrolled was given a preliminary examination. Those cases requiring a mydriatic for further study or refraction received such treatment from the school nurse. The following day these children were again examined for diagnosis, refraction, and recommendation.

The results of the work, aside from furnishing complete records for filing in the school and data for constructive work, permitted the return to regular classes of eighteen of the children attending these special classes. Those returned included corneal opacities 9, myopes 6, and hyperopes 3. These cases were refracted and given useful vision, and the condition of the eyes was considered safe for the performance of ordinary school work in regular classes. To assure that there should be no relapse in the health of the eyes, instructions were given to watch and follow up these children in regular classes.

By means of careful refraction and a consequent change of lenses, a number of the pupils were given a greater amount of visual acuity and improved efficiency. Several of these were listed as borderline cases for later consideration of change to regular classes. Among these cases several were afflicted with corneal opacities, and their records showed repeated refractions with the statement "Cannot improve vision with glasses." The reason for calling attention to these facts is to emphasize the necessity not only of expert treatment but of patient and persistent effort to improve the vision with lenses in all cases. Another outstanding fact is the frequent change in appearance and visual acuity of some corneal cases, either with or without treatment. This makes it unwise to dismiss the opacity cases with a prognosis of permanent semiblindness.

Of the 171 children enrolled in sight-saving classes there was a slight excess in the number of boys in proportion to girls: male 94, female 77. There were 127 white children and 44 colored. When you consider that about ten per cent of the total school population is colored, the 25 per cent of colored children in sight-saving classes becomes proportionately increased. A glance at the table of diagnoses arranged according to the number of each defect in both races

DIAGNOSES OF 171 CASES ENROLLED IN SIGHT-SAVING CLASSES

	White	*Colored*	*Total*
Myopia	48	11	59
Hyperopia	8	2	10
Corneal opacities	31	25	56
Retinochoroiditis	8	3	11
Congenital amaurosis with nystagmus	15	0	15
Congenital cataract	10	2	12
Optic atrophy	5	1	6
Coloboma of iris and choroid	1	0	1
Pseudoglioma	1	0	1
Total	127	44	171

GROUPING ACCORDING TO SEX AND COLOR

Male	94
Female	77
White	127
Colored	44

GROUPING ACCORDING TO APPROXIMATE AGES

No. of cases	5	2	6	24	23	37	33	18	11	12
Age in years	7	8	9	10	11	12	13	14	15	16

shows that 56, or one-third of all cases, were due to corneal opacities, and 25 of the cases were among the colored race. This is 57 per cent of the total cases found in this race. This fact has an important constructive value for salvaging children from the semiblind classes. Tuberculosis and syphilis are frequently found in the colored race, and are also common causes for interstitial keratitis and the resulting corneal opacities. Results from active treatment are often good. All children with keratitis and its sequelæ should be examined with tuberculin and Wassermann tests, and treatment recommended accordingly.

Since corneal opacities suggest injuries as a causative factor, inquiry revealed that but seven children in all classes were enrolled as a result of injuries. Six had corneal opacities, and one had optic atrophy of both eyes. This does not take into account the children who lost part or all vision in one eye following injuries. The other eye having good vision makes the child ineligible for sight-saving class.

Fifty-nine of the total number of children visually incapacitated were the result of high degrees of myopia. In these cases we were unable to obtain useful vision with correcting lenses, or the pathology noted in the fundi made it seem unsafe to continue school work by routine methods. Practically all of these children fail to progress in class, and frequently remain two or more terms in the same grade.

It may seem strange that the term "progressive myopia" has not been used in the above study. I believe that such a diagnosis should be reserved for those cases of myopia that have been

observed over a period of years and a progression noted. I believe with others that the natural trend of myopia among children is towards a moderate increase, but I also believe that it is often possible to keep the amount stationary or even reduce it by frequent careful refractions. It seems to me that we are lacking in a definite standard for determining when myopia is progressive. There seems to be an endeavor by some to term progressive, and a suitable case for sight conservation, every case that requires a high degree of minus lens. Little attention or credit is here given to pathologic changes of the eyes and the amount of visual acuity. There are many men and women in the industrial world wearing high myopic lenses who seem very little incapacitated. Such cases followed in our practice often show no harmful effects to their visual organs. We should be very conservative in limiting the activities of an individual on the mere presence of a high myopia, even though vision is partly lacking. This consideration is more important in childhood when an ambitious child is contemplating a career.

Analysis of Refraction in 59 Cases of Myopia

Table showing the number of diopters required to give the best possible correction and greatest visual acuity:

Right Eye		Left Eye	
Sphere	*Cylinder*	*Sphere*	*Cylinder*
8	4	8	4
7	.	7	.
4	2	4	3
12	3	12	2
12	5	12	2
10	2	9	3
6	1	5	2
4	3	5	2
8	.	10	.
5	1	4	1.50
12	.	8	.
7	4	7	4
10	.	10	.
4.50	1.50	4	1.50
8	.	1	4.50
8	.	10	.
15	.	15	.
6	1	11	.
18	.	10	.
5.50	.	6	1
12	.	12	.
8	.	9	.
7	.	7.50	.
6	2	6	1
5	2	5	2
10	3	13	3
9	.	4.50	1
9	.	9	.
12	3	12	3
10	.	8	2
17	.	17	.
8	1	12	3
9	1	5	3
9	2	9	2
7	2	7	3
10	4	10	4
3	2.50	5	2.50
12	.	12	.
12	.	12	.
9	.	9	.
8.50	.	9	.
10	.	10	.
7	2.50	7	3
12	.	12	.
14	.	14	.
8	4	8	5
8	2	11	2
8	3	1	3
13	.	13	.
10	2	7	3
8	2	8	1
6	.	6	.
6	1	7	.
7	.	10	.
12	.	12	.
4	1.50	5.50	.
10	.	10	.
12	.	14	.
6	.	5	.

Simplified Analysis of the Myopia Cases

Showing the total number in each group according to the total number of diopters (including myopia plus astigmatism) and averaging for both eyes.

No. of Diopters	*No. of Cases*
6	6
7	11
8	1
9	9
10	8
11	4
12	9
13	3
14	3
15	3
16	0
17	2

Analysis of the Ten Cases of Hyperopia

Right Eye	Left Eye
Sphere	*Sphere*
6	6
8	7
7	7
8	9
8	8
4.50 4 cyl.	4 4 cyl.
12	13
12	13
8	8
8	9

Assuming that the refractions are correct, it is of interest in connection with the myopes to note that but 26 were purely myopic. There was also a tendency for the total amount of refraction to be about equal in either eye. The same tendency appears in the hyperopes. I could

discover but two cases in which more than one member of a family was enrolled in sight-saving classes. In one instance there were two children, and in the other three children of the same family having a high degree of myopia.

It would have been of interest to tabulate the visual acuity in relation to the degree of ametropia or degree of lens required. This it was impossible to do, as the time allowed for finishing the work was limited. It was casually noted, however, that there was no special relation between the amount of vision and the number of diopters of lens required. Asthenopia symptoms also bore no relationship to the extent of defect. It seems a strange fact that marked symptoms of asthenopia were lacking in most cases among children. This stands out in contrast to similar conditions among adults. If asthenopia were present more often, it might be a means of provoking parents to seek treatment. It is also noteworthy that most of these children are not conscious of the small amount of visual acuity they possess. The absence of asthenopia may be explained by the fact that children, especially when vision is poor, do not concentrate on close work for long periods.

Retinochoroiditis was the diagnosis made in eleven cases that showed marked changes in these tissues, seemingly of a permanent character. Low grades of the defect were frequently observed, but were not assigned as the chief factor causing semiblindness.

The six cases of optic atrophy showed marked changes in color of the disk and in the character of the vessels. Vision in each case was reduced to 20/200 or less. One child gave a history of a serious injury to the forehead, four had been under antiluetic treatment, and one gave no definite history.

Congenital amaurosis was diagnosed in fifteen cases after a consideration of the history obtainable and inability to find sufficient evidence in the eyes to warrant a more specific listing. Nystagmus of many varieties was prevalent in practically all of these cases. Both eyes were affected to almost the same degree and there seemed to be no opportunity to improve vision by refraction.

Most of the twelve congenital-cataract cases had been unsuccessfully operated upon at some previous time. The pseudoglioma case had recently had the eye enucleated.

The study of the ages of the children at the time of survey showed nothing of importance. There were 135 from ten to fourteen years old. A similar study of ages at the time of entering sight-saving classes was made of 136 of the pupils.

Report cards of 138 of the children showed that 133 were born in America, four in Russia, and one in Canada. About 65 per cent were children of American parents, and the others chiefly Italian and Russian.

Ages of Pupils at the Time They Entered Sight-Saving Classes

Age Groups	5½-6	6-6½	6½-7	7-7½	7½-8	8-8½	8½-9
No. Pupils Enrolled in Each Group	3	5	11	6	1	14	6

Age Groups	9-9½	9½-10	10-10½	10½-11	11-11½
No. Pupils Enrolled in Each Group	18	4	14	13	9

Age Groups	11½-12	12-12½	12½-13	13-13½	13½-14
No. Pupils Enrolled in Each Group	4	5	10	7	1

Age Groups	14-14½	14½-15	15-15½	15½-16	16-16½
No. Pupils Enrolled in Each Group	2	1	1		1

Total 136

The following investigation was made in an endeavor to learn the amount of mental retardation due possibly to the physical handicap of poor vision. An entire class of sight-saving pupils were given complete psychologic tests, including school proficiency, language development, memory span and performance tests, and the mental age and intelligence quotient were recorded by Binet tests. These tests were made by the supervisor of mental examinations of the department of special education. There were eleven children in the class, and none were found to be considerably retarded and only three were recorded below their mental age.

Without going into details of the organization and conduct of special classes for the semiblind, a few facts should be explained: The number of children assigned to a class is ten to twelve. Specially trained and qualified teachers are employed, and are paid a slight increase over usual salaries. The classes are not ungraded but multigraded, and require individual instruction. Equipment comprises special seating, lighting, and study material. Books are printed in extra large "clear point" type.

Classes are conducted in schools where regular classes are also in session. It would seem advisable not to segregate or separate the special-class children entirely from the others. They should attend regular classes at times when the work does not require the use of the eyes. Oral and manual work should predominate in the special roster. Open-air exercises should be offered at intervals.

Corneal-opacity cases and many of the congenital defectives are not harmed by some close work, and should be in separate classes from the myopes. This arrangement would improve the teaching by permitting more group and less individual instruction.

The pitiful cases are those who are borderline for institutions. They have too little vision to benefit from special classes, and sufficient vision remaining to be refused by institutions for the blind.

The number of children in the special classes who are wearing ill-fitting or badly twisted spectacle frames prompts the suggestion for periodic visits of an optician.

The survey seems to have brought out several factors that should dominate any plans for conservation of vision.

Of the 171 cases of semiblind enrolled in special classes, together with the 84 found in the canvass of the city, 63, or almost one-fourth of the total, show congenital defects and are not amenable to conservation; 72 show corneal opacities; and 76 show high degrees of myopia. It seems logical to reason that, with the exception of the myopes, little conservation of vision can be expected from special educational methods. The congenital defects and the opacities are undoubtedly benefited scholastically in special classes. The opacities become a purely medical problem for treatment until they arrive at a stage when the experienced oculist has pronounced them beyond improvement.

Conservation of vision should concentrate not on the few hopeless semiblind but on the vast army of children who have varying amounts of defective vision due to uncorrected ametropia. From this horde are later recruited many men and women who fill our clinics for nervous, stomach, and other diseases. It is the group of partly visioned children that add to the list of injured as well as to those responsible for many accidents. The amount of stunted progress and inefficiency resulting from the failure to have visual defects corrected is incalculable.

In conclusion, it may be advisable to offer a few suggestions on important problems that require and deserve consideration by ophthalmologists:

(1) The formulation of admission standards for sight-saving classes. Physical defects, amount of loss of visual acuity, and ocular lesions that necessitate special and restricted education should be standardized.

(2) Should oculists alone be responsible for the diagnosis and placement of pupils?

(3) There is need of specialized medical advice on equipment and conduct of sight-saving classes. This should include the curriculum, and should emphasize hygiene of the eyes.

(4) Medical supervision should be by ophthalmologists.

(5) If special legislation for sight conservation is needed, its character and formulation should receive the attention and advice of the members who comprise the eye section of the State Medical Society.

(6) Most important is the need for an organized campaign to educate parents to the urgent need of early correction of defective vision due to errors of refraction.

CERTAIN DIFFICULTIES ATTENDANT ON REGIONAL ANESTHESIA*†

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Local anesthesia, alone or in combination with general anesthesia, was induced in the Mayo Clinic more often in 1926 than in any previous year (Table 1). This is partially due to an increase in the total number of cases in 1926 over that of 1925. In a recent review[7] of the results of the use of various anesthetics in 1925 and the three preceding years I expressed the belief that 1926 would see an increase in the use of combined anesthetics. It is now gratifying to report a realization of that expectation.

Anesthesia in each case was classified as satisfactory, fair, or poor, or was "necessarily combined." A satisfactory result was obtained when the operation was performed without discomfort to the patient. The result was fair when the regional anesthesia was sufficient but not entirely satisfactory. A poor result indicated absolute failure. Anesthesia was necessarily combined when it was found essential to resort to light general anesthesia principally because of pain, although nervousness or unexpected increase in the scope of the operation accounted for a few of the combinations.

The result was designated as untoward when the patient showed an untoward reaction to the anesthetic. This was graded as slight when there was a momentary elevation or depression in pulse rate, or tremor, pronounced palpitation, slight momentary nausea, or a combination of these symptoms. A marked reaction was manifested by marked increase (from epinephrin) or decrease (from procain) in the pulse rate with tremor, palpitation, nausea frequently and vomiting occasionally, pallor, sweating and rarely

* Read before the McKeesport Academy of Medicine, McKeesport, Pa.
† From the Section on Anesthesia, Mayo Clinic.

Table 1

Anesthetic	1924 Per cent	1925 Per cent	1926 Per cent
Ether	25.8	20.3	19.1
Local	43.2	45.0	42.7
Local and ether	1.4	1.7	0.8
Local and gases*	0.9	4.1	11.4
Gases*	27.6	28.4	25.3
Chloroform	0.08	0.09	0.1
Ethyl chlorid	0.2	0.1	0.1
Oil-ether colonic	.....	0.01	0.1
Spinal	0.01	.....	.....

*With or without ether.

anginal attacks with respiratory embarrassment. Marked reaction was often manifested by two or three of these symptoms alone if they were sufficiently severe. Marked reaction would be illustrated by a pulse rate of about 56 with considerable pallor, nausea, and vomiting. Reactions will be discussed later in this paper.

Table 2 shows the number of patients anesthetized in 1926 and results of the various types of block employed by the Section on Regional Anesthesia. This table does not include dental block or infiltration to produce anesthesia for operations on the eye, ear, nose, or throat, or for thyroidectomy. For practical purposes I shall confine my remarks to the types of block induced most frequently in the last year: cervical, abdominal, and sacral.

Cervical Block

Satisfactory anesthesia has been obtained for operations on the neck by blocking the cervical nerves at their exit from the intervertebral cervical foramina. There have been, however, many cases in which it was unsatisfactory. The method which I have followed for the last two years combines a superficial and deep cervical block[11] with a partial field block when extensive anesthesia of the cervical tissues is necessary. Thyroidectomy is excluded, since anesthesia of the cervical nerves in a comparatively small area suffices for this operation. The points in the technic are illustrated in Figure 1. From May 1, 1924, to May 1, 1927, deep cervical block, alone or with various other injections, has been used in 725 cases in the Mayo Clinic. No fatal accident was encountered, but if the solution is injected into the vertebral artery the condition of the patient will instantly become critical. This grave risk may be obviated by aspirating[4] before injecting the procain. Accidental puncture of the spinal canal has been reported by Friedrich. There is no particular difficulty with superficial cervical block. Hematoma, however, may be produced by puncture of the external jugular vein. The chief hazard in infiltrating the neck is intravascular injection of the solution, although the formation of a hematoma is disagreeable. It is unwise to inject deeply around the trachea for the first stage of laryngectomy. This deep injection is safe for second-stage laryngectomy.

Anesthesia of the cervical nerves, when accomplished, permits painless performance of laryngectomy, block dissection of the lymph nodes of the neck, excision of submental and submaxillary glands, excision of cyst or sinus of the thyroglossal duct, and many other operations on the neck. In most cases of thyroidectomy, anesthesia is induced by infiltration alone or in combination with gas.

Abdominal Block

Abdominal block is one of the best and most frequently employed types of regional anesthesia. It is often used alone and in combination with general anesthesia.[5] In the cases in Table 2 listed under abdominal block the patients were prepared for laparotomy when deep general anesthesia was contraindicated and for repair of various types of hernia, for operations on hydrocele, spermatocele, and for cystostomy. The most common sites for abdominal block together with the principal steps of the technic employed are shown in Figure 1. A few difficulties attend the induction of abdominal block. The principal one to bear in mind is that through thin walls one may puncture the viscera. I recall one case in which a large gall bladder was punctured and the abdominal cavity was slightly contaminated with bile. In another case three small petechial hemorrhages were raised on the surface of the transverse colon. In the wall of a 40-pound ovarian cyst removed from still another patient a horseshoe-shaped outline could be seen where the wall of the cyst had been punctured with each thrust of the needle into the abdominal wall. In none of these cases was there the slightest evidence during or after convalescence of any harm having been done. Such difficulties as these led to the development of a new needle[4] which aids to a large extent in avoiding bad results. If the abdominal wall is well blocked, the skin, fat, muscle, and parietal peritoneum may be painlessly incised. Of course, no anesthesia of the abdominal cavity is produced.

Posterior splanchnic block has been advocated for intra-abdominal anesthesia. In my hands the results in about 400 cases were on the whole unsatisfactory, anesthesia being good in only about half of the cases. There were, of course, many instances of striking results. I have given up this type of regional anesthesia, for the present at least, in favor of balanced anesthesia.

In blocking for herniotomy, there are a few

points to bear in mind in order to avoid trouble with the injection of the spermatic cord: (1) a hematoma may result from puncturing the spermatic plexus; (2) infection might be introduced by the needle which has pierced the skin; and (3) grave danger may arise from irreducible hernia, since a viscus might be perforated during the attempt to inject the cord. I believe it unwise to inject the cord before operation unless the hernia is reducible. The cord may be injected over the finger under direct vision after the incision is made if the hernia is irreducible. It is well to inject the neck of the sac under adequate exposure so that nothing else will be pierced. For cystostomy, infiltration of the space of Retzius may produce a hematoma and for that reason is undesirable. I prefer caudal block for several reasons. For suprapubic operations in the urinary bladder, abdominal block must be combined with sacral block. In Table 2, 377 cases of this kind are listed.

method. This was done principally for operations on the rectum and perineum, as well as for perineal prostatectomy, cystoscopy, and other similarly painful procedures.

Marked untoward reaction is not infrequent if sacral block is carried out rapidly. Delayed reaction is also quite common when large quantities of concentrated solution are injected or when the solution is hot or very warm. Sacral block has been so satisfactory that one may become enthusiastic about it. It is well, therefore, to bear in mind that accidents are possible in its use. From May 1, 1924, to May 1, 1927, sacral block alone or in combination with other blocks was used in 3,573 instances in the Mayo Clinic.

In this series I have seen a few cases complicated by grave heart disease in which severe reaction occurred. In each instance operation was postponed, and the patient was not placed in the prone position. No fatality occurred. It is my opinion that restriction of respiratory

TABLE 2

Block	Cases	Untoward reactions: Marked, per cent	Untoward reactions: Slight, per cent	Intentionally combined, per cent	No operation, per cent	Remaining cases	Anesthesia: Satisfactory, per cent	Anesthesia: Fair, per cent	Anesthesia: Poor, per cent	Anesthesia: Necessarily combined, per cent
Cervical	287	0.3	4.1	16.7	0.6	237	84.8	7.5	0.8	6.7
Brachial plexus	2	.....	.....	50.0	.....	1	100.0	.....	.....	.....
Paravertebral	30	.....	3.3	76.6	.....	7	71.4	.....	.....	28.5
Paravertebral and splanchnic	18	16.6	.....	94.4	.....	1	100.0	.....	.....	.....
Splanchnic and abdominal	1	.....	.....	100.0	.....	.....	.....	.....	.....	.....
Abdominal	1,258	0.07	0.6	68.4	0.2	394	79.1	11.1	1.7	7.8
Abdominal and sacral	377	1.2	3.4	2.1	.....	369	86.4	8.4	1.5	3.7
Sacral	1,026	2.4	3.0	5.3	0.5	965	94.3	2.4	0.6	2.5
Field block	303	0.6	0.3	9.9	.....	273	93.0	4.0	0.3	2.5
Infiltration	146	.....	.....	15.7	.....	125	95.2	1.6	.....	3.2
Totals	3,448	1.0	1.9	30.8	0.3	2,372	89.4	5.4	0.8	4.1

SACRAL BLOCK

Sacral block is one of the most satisfactory forms of regional anesthesia. The technic of its accomplishment has been described previously.[8] Several of the steps in the technic are illustrated in Figure 1. Block of the sacral nerves may be accomplished in some instances by injection of the caudal canal through the sacral hiatus only. It is more often successful when injection is made into the second sacral foramen on each side in addition to the caudal injection, but still more often successful when the first four sacral foramina on each side are injected posteriorly, as well as the caudal canal. In Table 2 under sacral block are combined all of the cases in which the sacral nerves were blocked, regardless of the

movement could be a fatal contribution of the prone position to the untoward reaction. Recently I observed a singularly severe untoward reaction during caudal injection preparatory to hemorrhoidectomy. All or part of 3 c.c. of a 1-per-cent procain solution was injected apparently into the plexus of veins which lines the caudal canal. There was a moment of localized pain at the point of injection, then generalized tingling, followed quickly by numbness, palpitation, air hunger, general anesthesia and unconsciousness with a convulsion, momentary cessation of respiration, and mild cyanosis. The symptoms thus far described appeared in about twenty seconds after injection. Unconsciousness lasted about half a minute. Sensation returned

quickly before voluntary motor function was restored, especially with reference to movements of the feet. However, about one and a half minutes after injection the patient returned to an apparently safe condition. This phenomenon was very like deep nitrous-oxid anesthesia with jactitation. The block was then completed without any difficulty. The patient showed no further ill effects.

Another rare complication incident to sacral block is sloughing of the soft tissues overlying the posterior surface of the sacrum. In

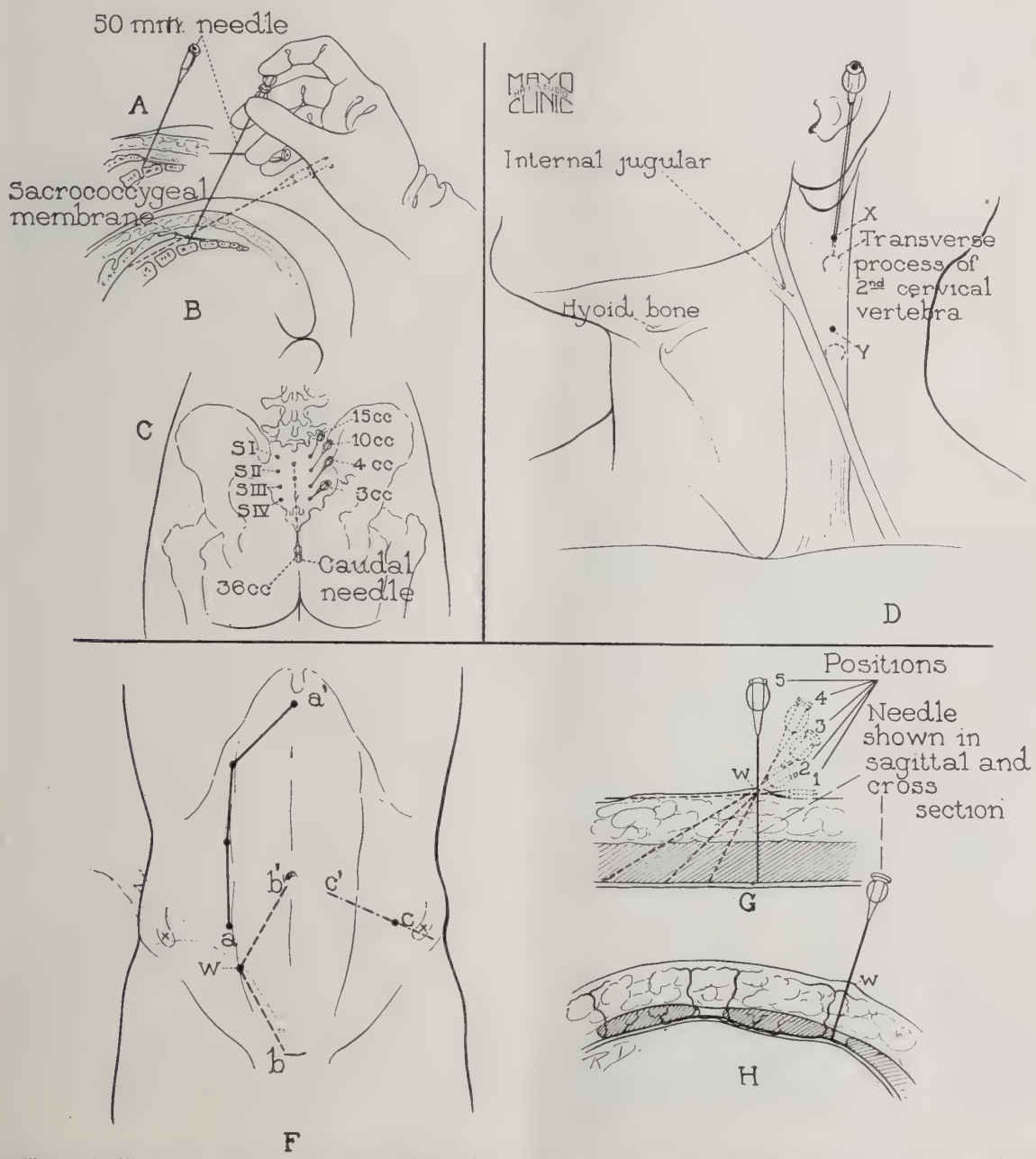

Fig. 1. A. The point of a 50-mm. needle within the lower end of the caudal canal. B. Fifty-millimeter needle withdrawn and caudal needle inserted through the sacrococcygeal membrane up into the caudal canal. C. Caudal needle in the caudal canal, also needles in the first, second, third, and fourth sacral foramina posteriorly on the right side. The foramina on the left side are also injected. D. Deep cervical block. The point of the needle, after passing through the skin wheal at *x* comes to rest on the tip of the transverse process of the second cervical vertebra, and there 10 c.c. of a 1-per-cent novocain solution is deposited. In a similar manner, through the skin wheal *y* another needle is passed and comes to rest against the tip of the transverse process of the fourth cervical vertebra. The wheal *x* is placed about one finger's breadth below the tip of the mastoid process. Wheal *y* is about on a level with the top of the thyroid cartilage, and at a point about one finger's breadth above the intersection of the external jugular vein and the posterior border of the sternocleidomastoid muscle. Superficial cervical block is accomplished by injecting from 10 to 20 c.c. of novocain solution from wheal *x* to wheal *y* and slightly beyond, intradermally and subcutaneously down to and partly into the deep tissues. F. Outlines of the sites of three of the most common blocks of the abdominal wall; *a* to *a'* block of the upper abdominal wall for right rectus incision (bilateral); *w* to *b* and *w* to *b'*, block for cystostomy (bilateral); *c* to *c'* and *c* to superior iliac spine, block for herniotomy. G. and H., sagittal and cross-section views through wheal *w* in F, showing the various positions of the needle in blocking the abdominal wall.

the last three years there have been two such cases. In both instances middle-aged men had been prepared for operations on the urinary bladder. In one case a small skin-graft was required later. In the other, the wound being very small, it healed spontaneously in a short time. In my opinion two of the causes of sloughing are: first, trauma incident to multiple thrusts of the needle through soft tissue and against periosteum while a foramen is being searched for; second, the postoperative position of the patient, which may necessitate the full weight being borne on the sacrum for long periods. This may be obviated by the use of an air cushion or by frequent resort to the lateral position. When spinal anesthesia was used extensively in the Mayo Clinic, sloughs occurred in the soft tissue lying over the sacrum in several cases if the weight was borne on the sacrum for long periods.

Puncture of the dura may be recognized either by the intermittent gushing of spinal fluid from the caudal needle after the stilette has been removed, or by aspirating spinal fluid into the syringe. The spinal dura was punctured by the caudal needle in six instances in the last three years with no worse result than spinal anesthesia.

Miscellaneous Regional Anesthesia

Ordinary field block or infiltration was used in a miscellaneous group of cases in which little anesthesia was required, and the scope of the operation was small.

Block of the brachial plexus is seldom used, and will not be discussed.

Paravertebral block was carried out principally in preparation for laminectomy and, although considerable anesthesia was produced, general anesthesia was frequently added. Slow healing of many of the wounds in the absence of suppuration has, at least temporarily, lessened the popularity of this block.

Paravertebral or splanchnic block was carried out in a few instances in preparation for extra-abdominal operation on the kidney as explained in a previous paper.[6] The use of this block has been discontinued. The combination of abdominal and posterior splanchnic block has also been discontinued,[6] balanced anesthesia[5] having supplanted it in most instances.

Untoward Reactions

I have observed, in block anesthesia and in accidental intravenous injections, that a toxic amount of procain lowers the blood pressure and slows the pulse, that in spinal anesthesia a similar result occurs, and that the systemic action of epinephrin usually counteracts these effects in both block anesthesia and spinal anesthesia. The chemical relation of local anesthetics to each other[10] and to epinephrin[1] has been shown. The pharmacology of epinephrin and local anesthetics has been studied by many.[3, 13, 14] Ephedrin has been used in place of epinephrin by a few.[8, 12] Intravenous injection results in a sudden reaction; this is the primary reason for injecting slowly. During block anesthesia, delayed reactions seem to be due to slow absorption. Results are more constant and dependable if a fresh solution is made daily or for each case.

The use of relatively large doses of epinephrin (10 minims or more to each 100 c.c. of solution) has been most unsatisfactory in seven cases in my hands. The usual symptoms of a mild epinephrin reaction (tremor, palpitation, and breathlessness) were exaggerated. Each patient complained of difficulty in breathing and of intermittent attacks of severe pain in the chest (in the right side in one, and in the left side in the others). In each case the pulse was rapid. The blood pressure rose about 40 mm. or more with each attack of pain in a case in which recovery ensued after forty-eight hours; during this time the attacks were separated by longer and longer intervals, and each succeeding one was less severe. The anginal attacks were separated from each other by a few (three or four) minutes, and each lasted but a minute or two. The shortest reaction lasted one hour. Since limiting the amount of epinephrin (6 minims to each 100 c.c. of solution) no such reactions have occurred during the last one and a half years. Epinephrin is not used in the procain solution in cases of heart disease or exophthalmic goiter.

Morphin in safe doses is a useful drug in preparation for operations under local anesthesia. In the Mayo Clinic the average dose of morphin is 1/6 grain given hypodermically thirty minutes prior to the injection of procain if the operation is to be a major one; for minor operations morphin is seldom required. The use of magnesium sulphate with morphin requires such careful technic to insure its intramuscular injection that it may be unsuitable for routine use. I have given it up, at least temporarily.

Discussion

The satisfactory results obtained from the use of regional anesthesia are evident in Table 2. The few accidental results here recorded or possibilities suggested are for the purpose of making a safe and satisfactory method of anesthesia still more safe and satisfactory. The infrequent occurrence of accidents is gratifying, since in the majority of cases in which regional methods

of anesthesia are followed the patient is a poor subject for operation.

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Case Reports*

PROLAPSE OF THE URETHRA IN GIRLS

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In reviewing the literature on this subject, I was impressed with the comparatively few case reports.

Prolapse of the urethra in girls forms a conical or cylindrical tumor, to a complete eversion of the lower part of the urethra, involving only the mucosa. The prolapse may be partial or complete. Partial prolapse may involve only the anterior part of the urethra or may consist in a a prolapse and inversion of the upper parts.

Brüning, in reviewing the literature in his collection of 76 cases in 1911, reports that the earliest cases date back to the nursing period of life. His tabulation showing the percentage of prolapse compared with the age of the child, up to the period of adolescence, is as follows:

1 to 4 years	3 cases—	4 per cent
5 to 7 years	19 cases—	25 per cent
8 to 11 years	48 cases—	63 per cent
12 to 15 years	6 cases—	8 per cent

The chief complaint, in this group of cases, was a burning pain with frequent urination, accompanied by straining and a sanguineous discharge, associated with dribbling of urine. Examination in such cases, shows a red tumor in the vulva. The size of the tumor is that of a hazelnut or a walnut, and may vary from ¾ of a cm. to 4 cm. in length. The orifice of the urethra is sometimes difficult to find, and may lie over or to one side of the tumor.

The affection develops suddenly in about 41 per cent of cases. In other instances, it is slow and progressive. Patients are often described as poorly nourished and feebly developed, bronchitis and tuberculosis being noted. On the other hand, some of the little patients are in excellent general condition. The following causes for sudden development are cited in Brüning's group: a blow on the abdomen, lifting, rape, long-standing diarrhea, violent coughing.

The treatment has been local and operative. It appears that in the milder forms of prolapse, especially so of the anterior urethra, treatment by astringents, escharotics, and electrolysis has resulted in cure. Prolapses from inversion of the mucosa in the posterior urethra do not yield to local treatment. The operative procedure by resection of the redundant mucosa has offered the best results.

CASE REPORT

A girl, aged 10 years, was admitted to the Jefferson Hospital, June 13, 1927. She was fairly well nourished. Her history showed measles, scarlet fever, and otitis media with spontaneous rupture. The physical examination was negative except for infected mouth, teeth, and tonsils.

Her present illness had a sudden onset in August, 1926. Severe pain was referred to the urethra, with re-

*Read before the Section on Urology of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

tention of urine. The family physician had difficulty in catheterizing, but finally succeeded in relieving the child. A few weeks later she had a similar attack. At this time, the mother noticed a tumor mass of small size protruding from the vulva. The child was again relieved by catheterization, and for a period of weeks following the second attack of urinary retention she had no further discomfort.

During October, 1926, she began to have frequent and painful urination, experiencing some difficulty in voiding, but no retention. From the history of the case, she evidently had some tenesmus and straining at the time of urination, the prolapse of the urethra becoming more marked. It was at this time that she was placed under our care for observation and a complete study.

There was a bulging in the anterior wall of the vagina on straining, and especially so when the mucosa protruded from the meatus.

Urethrocystoscopic examination showed that the carrying capacity was normal. The bladder was funnel shaped. The trigon at the urethrovesical margin showed loose folds of mucous membrane which extended into the proximal end of the urethra. The interpretation of the cystogram shows a slight density in the area of the inverted mucosa.

Operation was performed on June 16, 1927, under ether anesthesia. The routine preoperative preparation was made. The bladder was irrigated with a 10-percent boric-acid solution. A sound was introduced into the urethra for a guide. An incision 2 cm. in length was made in the median line of the anterior wall of the vagina, exposing the urethra, and was continued through the urethra and mucous membrane. The inverted mucous membrane was seized by forceps and brought through the incised urethra and resected at the base. The edges of the mucous membrane were repaired by a continuous suture of fine catgut. The urethra was repaired by interrupted catgut sutures, followed by the repair of the vagina. Three tiers of sutures were used in the operation.

An indwelling catheter was placed in the bladder for the purpose of drainage. Continuous drainage was instituted for four days, when the catheter was removed. The patient made an uneventful postoperative recovery, and was discharged from the hospital on June 27, 1927.

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PRIMARY CARCINOMA OF THE BULB

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The patient, a white man, aged 47, was first seen June, 1926, having been referred by his doctor for difficulty in urination. He was married, and his wife had never been pregnant. He had gonorrhea in 1898 while in the army, also an initial lesion at the same time.

About twelve years ago he noticed difficulty in urination which gradually became worse, but he did not seek medical advice. Early in 1926 he noticed a mass about the size of his little finger in his perineum and consulted his physician, who found symptoms of syphilis with a 4-plus blood Wassermann. Vigorous antiluetic treatment was continued for two months, without effect on the mass, when he came under my observation with acute retention.

Filiform bougies with followers were passed, meeting marked obstruction at the bulb. He had an Argyll Robertson pupil, patellar reflexes were absent, and his Wassermann was still 4-plus. There was a distinct mass in the substance of the right corpus cavernosum muscle 3.5 cm. in length by 1 cm. in thickness, very hard, slightly nodular, and its posterior end (which was slightly thicker than the anterior) was firmly fixed against the anterior layer of the triangular ligament. There was a generalized lymphadenitis present, but the glands in the groins were much larger than the others, and matted together almost in one mass. The lumps in the groin, the patient stated, had been present since he had the initial lesion. On rectal examination, it was found that his prostate was somewhat hard; the seminal vesicles were not palpated, and no other mass could be felt. Plain films, cystograms, and urethrograms were negative. At that time permission for biopsy of a lymph node was refused. Bougies were passed at weekly intervals without unusual bleeding, and the antiluetic treatment was continued. The mass gradually became larger, and urination more difficult, but it was not at any time painful. Erections were painful at first, but in the past few months they have not been present. He did not lose weight.

Three courses of x-ray therapy were given, consisting of 90 to 96 minutes, of erythema dose, at bimonthly intervals. After each series, the patient developed acute retention, but he thought he voided more easily after the first two series. Early in September, 1927, following his last treatment, he developed acute retention, with a marked swelling and edema of the scrotum, and when repeated attempts to catheterize failed, a suprapubic drainage was done (under nerve block). At that time I removed an inguinal lymph node for pathologic examination. Dr. R. H. McLellan, pathologist at the McKeesport Hospital, submitted the following report:

Gross: Specimen consisted of a lymph node measuring 1.75 by 1 cm. It was quite firm on palpation, and on gross section showed a cut surface made up uniformly of a granular, pearly-white substance which was not friable. The white tissue stood up from the surrounding tissue slightly in pin-head-sized, rounded areas.

Microscopic: Section of lymph node showed complete destruction of the usual histology of the node and replacement by irregular masses of stratified squamous epithelium. These masses were usually rounded, and

showed a wide cavitylike center filled with masses of keratinized epithelium with occasional pearl formation. The picture was typical of metastatic epidermoid carcinoma. The remaining stroma was almost exclusively inflammatory in character.

Diagnosis: Secondary epidermoid carcinoma of penis in inguinal lymph node.

Ten days after operation, the patient developed a slough of the right side of the scrotum down to the tunica about 3 by 2 cm. The mass now extends from the triangular ligament well up into the substance of the glans, is 3 cm. in diameter at its posterior end, and tapers to almost a point in the glans. It is of almost bony hardness, and has gradually become nodular, but there is no indication of tissue breakdown. The skin and superficial fascia are freely movable over the tumor.

Comment

(1) Primary carcinoma of the bulb is rare.

(2) This patient has a definite history of urethral stricture. It is therefore probable that the growth originated in the bulb at the site of stricture.

(3) Early diagnosis was difficult on account of the history of syphilis and the close resemblance of the condition to plastic induration or la Peyronie's disease.

(4) There was no evidence of a wart or projecting growth in which the tumor might have originated.

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208 Masonic Building.

RUPTURED KIDNEY DUE TO MUSCULAR ACTION

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Case 1

J. D. C., aged 59, whose previous health had been good, on the evening of July 20, 1913, while walking across the street toward his front porch, stepped on a loose street-car rail which was leaning against the curbing. The rail moved, causing him to lose his balance. He did not fall, and finally succeeded in regaining his balance as he reached the front steps of his home. He sat down, joining some other members of his family. Shortly after, he experienced pain in the right lumbar region, became somewhat nauseated, and felt faint. He decided to go into the house and lie down. The condition seemed to grow gradually worse, so that a physician was called the same evening. He passed a small amount of bloody urine during the night.

The following morning about 10 a.m. I was called in consultation. The patient was in coma, with rapid but full pulse, increased and labored respiration, dry skin, and an axillary temperature of 100½°. There was distinct tenderness in the right lumbar region, with a slightly distended abdomen. No urine had been voided since the night before. By catheterization, about one ounce of a dark-colored fluid was obtained.

A diagnosis of uremia, with suppression of urine due to acute nephritis and possible rupture of the right kidney was made, and cystoscopy and ureteral catheterization advised. Treatment for the uremia was instituted, but cystoscopy could not be done because the patient grew rapidly worse and died at 3 p.m. of the same day.

Fortunately, a postmortem examination was permitted. It revealed the right kidney healthy but completely ruptured transversely, practically dividing the organ into two equal parts. There was a congenital absence of the left kidney, only a rudimentary sac or pelvis being present, thus explaining the cause of the anuria and the uremic symptoms.

Case 2

D. D., a farmer aged 40, was admitted to St. Joseph's Hospital with symptoms of shock and internal hemorrhage. The local symptoms consisted of some pain, tenderness, and swelling in the right lumbar and loin regions, with hematuria. The case was complicated with a simple fracture of the right radius.

According to the history, the patient walked across the hay stored in a barn, when suddenly and unexpectedly he stepped into space and dropped a distance of approximately ten feet on top of a large pile of hay in a feeding entry. He was not struck by any object, neither did he fall against any part of the barn, except that his right hand came in contact with the side of a wall or trough just as he landed, fracturing his right radius. He was taken by surprise, and made a desperate effort to save himself at the beginning of the fall. He landed on his feet on a heap of hay in a standing position. He was certain that his body was flexed very little, if at all, during the fall.

Cystoscopy and ureteral catheterization obtained normal urine, and revealed normal function of the left kidney, with a bloody urine and no function from the right kidney. At operation, the latter was found to be completely ruptured at two places, dividing the organ into three parts. Nephrectomy was done, and the patient made an uneventful recovery. He was discharged

as cured on December 1, 1914, 49 days after admission.

The outstanding feature of these two cases is the extensive damage caused by such trivial accidents. I concluded, therefore that the ruptures must have been caused by muscular action. A possible cause of rupture in these two cases could have been the sudden, unexpected loss of balance caused a quick, cramplike contraction of the erector spinæ group of muscles and the abdominal musculature, tearing the organ into an upper and lower half by bending the kidney across the last rib. Abrupt flexion as a cause of rupture cannot be disproved absolutely, but after developing a careful history of the accidents, it seems certain that there was no acute flexion of the body. All authorities seem to agree with Kuster that a common cause of rupture is the hydraulic pressure acting through the full vessels and pelvis, causing the kidney to burst. The part this hydraulic pressure played in these cases is problematical. Since both kidneys were torn entirely across, I question whether this can be considered as a causative factor.

COMPLETE RETENTION DUE TO HYPERTROPHIED PROSTATE AND COMPLICATED BY STRICTURE

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G. B., aged 76, white, farmer, was first seen in consultation with his family physician for acute retention of urine which the physician was unable to relieve.

The history given was essentially as follows: Forty years previous he had fallen astride some object and injured his urethra, and, as near as I could gather, a silver catheter had been tied in place for some time. There had been no further urinary symptoms until two years before my visit. At that time he experienced difficulty in urinating. This had become more and more of a task until the previous evening, when he had found it impossible to void, and when I saw him twelve hours later, he still had not voided.

Rectal examination revealed a moderately enlarged prostate, probably benign in character.

I tried first a soft-rubber and then a semirigid catheter, and found them both obstructed about the bulbomembranous junction. This indicated that the trouble was not entirely prostatic, but was complicated by stricture. Next I resorted to a Phillips filiform catheter, but although it passed through the stricture, it would not pass into the bladder, due to the obstruction offered by the prostate.

There seemed nothing to do but perform a suprapubic cystotomy, and I had the patient moved to a hospital. His blood pressure was 110/60. No laboratory work was done at this time, due to the urgency of the case. The patient reacted very well to the cystotomy, but developed abscesses on both sides where the hypodermoclysis needles had been inserted.

The laboratory tests at this time were as follows: blood urea nitrogen, 20 mgm.; blood Wassermann, negative; urinalysis, normal; blood count, red cells 4,500,000, hemoglobin 80 per cent.

Ten days after the first operation, I removed his prostate. After three stormy days he pulled through, but I still had the stricture to relieve before I could hope for healing of the suprapubic wound and passage of the urine through the normal channel.

Rather than subject the patient to another operative procedure, I elected to try dilatation, and after waiting two weeks I started with a No. 10 Phillips bougie. The patient promptly developed an epididymitis, and I did not attempt anything further until that had subsided, which required approximately another two weeks. After that, dilatation could be carried out fairly frequently, and in the sixth week the patient voided for the first time, and then went on to recovery with the exception of a small suprapubic fistula which would remain closed for days at a time, only to open and drain a small amount. It was hoped that the fistula would heal in time, but his physician states that there is still occasionally a small amount of drainage.

SPEAKER FOR THE HOUSE OF DELEGATES

Several state medical associations are adopting the plan now in force in the American Medical Association of having a Speaker for the House of Delegates. It seems to us that this is an excellent plan and well could be adopted in Indiana. The man who presides over a legislative body should be thoroughly schooled in parliamentary usage and one who in reality is a good presiding officer. Some of our presidents have been excellent presiding officers, whereas others have been dismal failures. One or two of them have been absolutely helpless and hopeless when some sort of a parliamentary tangle was brought about through a scrap on the floor of the House. They not only looked helpless but they acted helpless, and in their desperation they had to ask the secretary and some others just how they should decide certain questions, and many times they did not decide the right way at that. All of this sort of confusion and dissatisfaction would be prevented and much time would be saved if we had a Speaker who is well-versed in parliamentary usage and who is a recognized good presiding officer. We offer the suggestion that the Indiana State Medical Association take into consideration the advisability of having a permanent Speaker of the House of Delegates. It will relieve the president of very objectionable duties, and at the same time add to the dignity of his office.—*Indiana State Medical Journal.*

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Editorials

MERRY CHRISTMAS!

Again we are privileged to extend a Merry Christmas to you and yours.

Christmas, though originally established as a religious festival of definite sectarian character, has come to be one of quite universal observance, apart from its religious significance. The traditional spirit of the occasion makes such an appeal to all that is best and sweetest in our natures, that the followers of all creeds very generally adopt it as a day for special deeds of kindness and love.

Bearing in mind that it is more blessed to give than it is to receive, it cannot be amiss to call attention to the fact that an adequate performance of the usual seasonal acts of charity involves no little preparatory work, and that this should be inaugurated early in order that all such may be properly cared for.

No one can yield to the Spirit of Christmas without his being warmed by good thoughts. They may not transform him, as Old Scrooge was transformed from "a squeezing, wrenching, grasping, scraping, clutching, covetous old sinner," into a new being; but no one can think kindly thoughts on Christmas Day without experiencing some degree of spiritual regeneration. In this fact lies the surpassing value of the Spirit of Christmas to mankind and our progressive civilization, which is striving all the while through its better thought to eliminate the causes of individual hardships and misery.

PHYSICAL THERAPY—A LIVE SUBJECT

A Council on Physical Therapy was created by the American Medical Association in June, 1925. Attention was duly called to the aims of this Council in our JOURNAL.

The Council "will stand only for that which can be proved by the laboratory or by adequate clinical experience, and will fearlessly oppose that which is false." In order to safeguard the physician, "every manufacturer desiring to have his apparatus on the accepted list must submit to the Council a full description of its construction, its methods of operation, and working plans, specifications, photographs (and blueprints if requested). He must also submit all advertising literature and all therapeutic claims made." This is in line with the principles that led the American Medical Association to organize the Council on Pharmacy and Chemistry, "with the result that today the medical journals are in the main free from preposterous advertisements of such pharmaceuticals."

The Council is of the opinion that instruction in biophysics should be stressed in the premedical course, and further, that the curricula of the undergraduate and graduate medical schools should include a greater amount of instruction in physical therapeutics. This is very true because physical therapy, considered by many one of the greatest specialties in medicine today, is now occupying a most important place in treatment. In order that it shall receive proper recognition, primarily, well-conducted courses of instruction must be given in the medical schools and, secondarily, county, state, and national societies should stress the subject in their programs. The Council "shortly will publish a series of articles dealing with the basic principles of all that is definitely known concerning the merits and limitations of physical methods of treatment." These articles no doubt will appear in the *Journal of the American Medical Association* as well as other journals, and our members should read them most carefully, in order that they may be properly informed. The Council

will need the coöperation of the physicians as to suggestions and criticisms, "especially constructive," in order to carry out its program.

Every hospital should have a department of physical therapy with a chief in charge who is thoroughly trained in the technic and procedures.

At the meeting of the American Electrotherapeutic Association held at Washington, D. C., May, 1927, a memorial testimonial was paid to Dr. George Betton Massey (whose work was all done in Philadelphia), founder of the Association, and its first president (1891). This was the first national or other physical-therapy society organized in the world. *Physical Therapeutics,* published by Williams and Wilkins Co., Baltimore, Md., the official organ of the American Therapeutic Association, is devoted to all phases of physical therapeutics.

The plea to our members is to realize the need for becoming properly instructed in physical therapy, that your patients may receive the benefits therefrom, and that anatomic and physiologic end results will be all that could be desired. Beginning with this number our JOURNAL will publish each month a special column devoted to physical therapy.

THE POWER OF THE PENNY

This month a billion Christmas seals will be offered to the public at one cent each—a small amount; yet if all these seals are sold, ten million dollars will be available to carry on the fight against tuberculosis for another year.

Although the death rate from this disease has been cut in half since 1907, there is ample proof of the need to continue the fight against it more vigorously than ever. Said Dr. A. J. Cohen, speaking at the dedication of a new hospital unit at the Eagleville Sanatorium, "It would be unfortunate indeed if we were lulled into a sense of false security by the very gratifying drop in the death rate from tuberculosis to the point where we relax our vigil and reduce our efforts in the finding and prompt treatment of cases." Speaking at the same meeting State Secretary of Health Theodore B. Appel pointed out that the great majority of deaths take place in the age period that includes young men and women and those in the main producing years of life, and that this is a time for *redoubling* rather than easing up in our efforts. The disease still stands sixth as a cause of death in Pennsylvania, yet it is the most costly of all diseases afflicting our citizens, for out of 7,391 deaths from tuberculosis in Pennsylvania in 1926, 4,361 occurred between the ages of twenty and fifty—the most productive years.

As a factor in this fight, the National Tuberculosis Association is a power to be reckoned with. Its sole income is derived from the sale of these penny seals, and it merits the united support of that profession devoted to the amelioration and prevention of disease.

"Through its saving of human life and diminution of crippling illness," says Dr. Allen K. Krause, associate professor of medicine, Johns Hopkins University, and director of the Kenneth Dows Foundation for Tuberculosis Research, "the tuberculosis campaign in this country has returned many times the amount of money put into it directly—it has much more than paid for itself.....The result has been a saving of a million and a half lives in America during the first quarter-century of the campaign from tuberculosis alone. Everywhere the ultimate effects are to be found in the prevention of thousands of cases of tuberculosis—in breaking of infectious contacts between the diseased and the healthy and the returning of multitudes of formerly chronic invalids to some measure of improved health and productiveness, and in general to a greatly better physical tone of the nation at large."

One of the least known efforts of the National Tuberculosis Association is the systematic research carried on under its supervision. A number of years ago a plan of coöperative research was begun by the Association for new and more exact knowledge, on the basis of certain physical structures which compose the tubercle in the animal body. The chemical procedure for analyzing the bacillus so far comprises nineteen different steps. At the last annual meeting the research committee exhibited fifteen vials and bottles containing waxes, fats, sugars, and proteins which already have been isolated in the laboratory as distinct substances, many of them new to scientific knowledge. That others besides specialists in research are keenly interested in the problem is illustrated by the fact that two large chemical manufacturers are assisting the research work by providing millions of tubercle bacilli bred on a carefully composed chemical medium. Last year, as only part of their contribution to this organized effort to discover a cure, one house had two thousand bottles of tubercle bacilli growing at one time. Yet this served only to begin the study of the fat substances in this organism.

The seal quota assigned to Pennsylvania this Christmas has been fixed at $600,000—a per capita of about 6 cents. The State headquarters for the campaign has been established in Room 310, Caplan Building, Market Square, Harrisburg. All inquiries should be sent to this address.

The coöperation of all physicians is solicited this holiday season. May the response be in proportion to the need and the value of the work! More power to the penny!

ANNUAL CONFERENCE OF SECRETARIES OF CONSTITUENT MEDICAL ASSOCIATIONS

The annual conference of the secretaries of the constituent state medical associations was held in the American Medical Association building, Chicago, November 18th and 19th.

The secretaries and the editors of the state journals are the guests of the American Medical Association at these conferences, and the Medical Society of the State of Pennsylvania wishes to express grateful appreciation for the hospitality extended its secretary and editor.

Addresses were delivered by President Jabez N. Jackson, President-Elect W. S. Thayer, and Dr. Edward B. Heckel, chairman of the Board of Trustees of the American Medical Association, who stressed the advantages that accrue from organized medicine, and the value of the personal touch incident to these annual conferences, adding that more attention should be paid to the social side of the meetings of the county societies.

The basic-science law was fully described by Dr. W. C. Woodward, executive secretary of the Bureau of Legal Medicine and Legislation of the American Medical Association, who stated that the basic sciences are anatomy, physiology, chemistry, bacteriology, and pathology; that the basic-science law is not a panacea for every ill; that a basic-science board in no way conflicts with a state board of medical examiners; and that the basic-science act is operative in six states. It will be of interest to ascertain what will be accomplished by the act and how it will function in licensure by reciprocity.

An excellent paper on "Periodic Conferences Between Officers of Associations of Adjoining States," was presented by Dr. J. B. Morrison, secretary of the Medical Society of New Jersey. This paper was based upon the eminently satisfactory results that have followed the conferences held by the officers of the State Medical Societies of New Jersey, New York, and Pennsylvania, the idea having originated with Dr. Morrison and Dr. H. O. Reik, editor of the *Journal of the Medical Society of New Jersey.* The message was so ably put over by Dr. Morrison that undoubtedly other conferences will be arranged in various parts of the Union.

"Twenty-four per cent of the members of the American Medical Association, and twenty-five per cent of the population of the United States are within the borders of these three States. All matters of interest to the medical profession and to organized medicine as a whole are live topics with us, and we are compelled to devote to them a large measure of attention and study."

This paper of Dr. Morrison's opened the vista to the wonderful results that would accrue from similar conferences "established among state medical societies in other groups of adjoining states."

A symposium was devoted to "The Annual Meeting": (1) "The Program," by Dr. Holman Taylor, secretary of the State Medical Association of Texas; (2) "Exhibits," by Dr. F. B. Stephenson, secretary of the Colorado State Medical Society; and (3) "Observations in Several States," by Dr. Morris Fishbein, editor of the *Journal of the American Medical Association.* This symposium afforded an excellent opportunity for an interchange of ideas on the many problems incident to the arrangements for a successful completion of the annual meetings of a state society. Few members are cognizant of the tremendous details incident thereto.

Dr. Henry O. Reik, editor of the *Journal of the Medical Society of New Jersey,* read an admirable paper on "The Free Clinic." We would urge all of our membership to read this paper and the discussion in full, when they appear in the *Bulletin of the American Medical Association,* as it is one of the very best that has appeared upon the subject, and carries a message to every physician.

The writer divided the free clinics into the following groups: (1) those connected with hospitals and medical schools (the old type); (2) clinics established by boards of health for use in their battle to control infectious diseases (the new type), and the still more recent development of free examination and treatment clinics set up by various public-welfare organizations; and (3) free clinics conducted by lay organizations—the most aggravated feature of the free-clinic question. Dr. Reik considers that "the physician is certainly skating on thin ice when he insists upon a sharp dividing line between preventive and curative medicine, if he truly has the public welfare at heart. The layman is equally wrong in turning to the free clinic as the only means of solving the problem involved in securing treatment of the bad health condition found. It is probably true that when these clinics enter upon the field of curative medicine they rob the physician of business that properly belongs to him, and here I regret to say that I speak from

personal knowledge that many physicians fail to measure up to their professional responsibilities when dealing with patients unearthed by these welfare associations."

Dr. Reik suggested the following solution. The control of medical school and hospital clinics is entirely in the hands of the profession; the second class, comprising health officers and boards of health, are not quite so amenable to our professional voice, but can be made so if the medical profession will get on the job.

THE QUESTIONNAIRE EVIL

"I am making an investigation of—(anything from prunes to prisms) and am anxious to determine certain facts, for which I naturally turn to physicians. Will you be good enough to return your answers on the inclosed card? Your name will not be used in any way. I am merely seeking a consensus of medical opinion."

Would you answer this? Of course not! Yet the fact remains that a prominent tobacco company is advertising the approval of some eleven thousand physicians.

This has so brought forth the resentment of medical men throughout the country that the *Medical Review of Reviews* has taken up the question, and has made a survey of leading physicians throughout the country to expose misleading advertising. The original article includes a long list of physicians who supported this publication in its efforts. One of them wrote: "They sent each physician a carton of cigarettes—gratis—with it the questions with return post cards, very convenient and no trouble, so they would get many favorable replies. I did not answer the questions but smoked the cigarettes and coughed as usual. It is not a scientific survey—far from it." Another wrote: "In my own case, the company advised me that I had written a favorable report of their cigarette. I do not remember ever having penned one word about it. Furthermore, I am a nonsmoker."

The physicians among whom the survey was conducted were asked two questions by the *Medical Review of Reviews.* The first was: "Do you not agree with us that it is impossible for one cigarette to have any advantage over all others in regard to throat ease or irritation?" to which the answer was almost unanimously "yes." The second was: "Is it not your observation that there is no scientific reason for preference for any given cigarette, and that any preference is on a taste basis?" to which the answer again was almost unanimously "yes."

The *Medical Review of Reviews* is to be congratulated for thus taking the bull by the horns. But the tobacco question is not the only one that has suffered from a pseudoscientific review. Requests frequently come to the JOURNAL from various advertising agencies seeking "copy," requesting information about chemical constituents of certain food products, about the digestibility and therapeutic value of various food products, about harmfulness of inferior toilet papers, about anything and everything under the medical sun that would require the tireless research of an expert to give any kind of valid opinion.

Why do these firms who desire the prestige of scientific opinions not pay experts to determine the facts they need in their advertising campaigns? Why try to get it free from the overworked medical profession?

On the other hand, why give it to them free? If one of these individuals were to come into your office asking for a donation of your time and scientific services, you would promptly show him the door. Why, then, give it to him gratis because it comes in the form of a questionnaire?

It has always been a mystery to us how it came about that necessary information, requested for a valid reason, by an agency set up by the profession itself was so difficult to secure—why the response was so poor; yet quack and borderline advertisers never seem to lack for medical endorsement. Maybe they have faked it, as indicated by the letter quoted above. However it may be, let us hope that every one who has earned the privilege of writing M.D. after his name may be more discriminating in the future. It is not so necessary to keep your mouth shut as to say the right thing when you open it!

LIVER EXTRACT IN THE TOXEMIAS OF PREGNANCY

In this issue of the JOURNAL appears an article under the above caption, read at the Pittsburgh meeting of our State Medical Society. It would appear to be the outstanding paper of the session, for it thrilled us with the hope of at last having some procedure which will render great assistance in preventing and curing the toxemias which are fraught with such disastrous results to the pregnant woman.

The experimental work recorded was done, and is being continued, in the department of obstetrics of the University of Pittsburgh. As stated in the article, "an increasing suspicion that the liver necrosis found at autopsy had more than a passing significance, a feeling that the detoxicating function of the liver was essential to the pregnant woman, and a hope that this neutralizing substance, whatever it may be, could be supplied," led these observers to try the use

of liver extract in the treatment of the eclamptic and preëclamptic woman. The preparation used is heparmone, supplied to the department of obstetrics for clinical research by one of the manufacturers of biologicals. The results so far obtained in 122 eclamptic and preëclamptic cases have been so encouraging that they hope to continue both their clinical and pathologic work until they can report a series of 1,000 cases from which a proper appraisement of heparmone may be made. The department of obstetrics referred to, so far as we know, has no knowledge of the procedure of manufacture of heparmone, nor what livers are used. The impression is that it is pig's liver. The questions that arise are, who are the manufacturers? When will the product be available for the medical profession? What other clinical observations are being made? With what results?

There was a great deal of discussion "on the street" as to the propriety of these observers in employing a remedial agent of which no further reference was given in the article other than the manufacturer's trade name. While there is much to be said pro and con, if further study confirms the results recorded, and a way has been blazed successfully to combat the toxemias of pregnancy, the world will forgive, and pay due homage to these pioneer observers.

The results claimed in some of the preëclamptic cases are open to question, because quite a few cases are seen with a systolic blood pressure greater than 180 mm. that remain untreated and do not develop convulsions, and indeed such cases may be recorded with a systolic blood pressure of 230 mm. Still we must bear in mind the marked value of this preparation in the treatment of the preëclamptic woman.

ERRORS IN LIVING AS THE CAUSE OF DISEASE

"To err is human and to forgive divine," reads an old adage. "To err in living is but to shorten life" might read another. No one is in a better position to vouch for this saying than physicians in all fields of medicine. Daily reflected in their case files are records, living testimonials, to the indisputable fact that to err in living brings unhappiness, sickness, disease, and death.

These are not new findings. Since the memory of man these factors have been known; but only in comparatively recent years have they been greatly emphasized. On the old list of known factors in disease given to the student of twenty-five years ago, one recalls heredity, climatic conditions, rheumatism, gout, and syphilis. We knew them by heart on "finals" or test quizzes and while the rôle of bacteria, etc., was also recognized, the twentieth century has added focal infections, environmental conditions, and errors in living. It would seem that errors in living are the base on which the other two rest. If we committed no errors in living, there would be no lowered resistance and bacterial invasion, and our environment correspondingly would be ideal.

To live properly is not as easy as it may seem. Certain social and economic barriers stand between our efforts and our attainments. Furthermore, directing human instincts, passions, and desires to a proper end, has been man's greatest problem since creation. The ancient Hebrews' efforts, blessed with theocracy, in communion with God himself, yielded but a friable mass in time and space. Plato approached the subject through philosophy. The ancient Romans and Greeks set forth idealistic teachings in art, sculpture, and literature. Psychologists and social workers have made their contribution. Science has given its findings, while the philosophy of common sense has been echoed and reëchoed as sounding brass and tinkling cymbals.

Despite all of these, the hope that burns eternal in the human breast—health, which is the priceless jewel, and happiness, that Utopian state of the gods—still lures men and women to put forth their strenuous efforts to exist. Therefore, let us take courage and emphasize again with hopeful anticipation these truths which may be classed as pitfalls to healthful living, such as broken sleep, lack of exercise and diversion, lack of fresh air and sunshine, improper diets, insanitary care of the body without attention to its excretions and secretions, excessive indulgences of all kinds, and lack of proper mental training, all of which may be corrected by a knowledge of one's self, the normal requirements for the purposes for which we are intended, and the election of the environment necessary to our proper functioning. This, in other words, is no more than the anticipated result of our present educational system. In our efforts, therefore, let us remember that while through public-health service we may reach adult men and women, our noblest effort will be put forth in the public-school health program which will reflect itself in the men and women of the next generation.

THE CARE OF CHILDREN IN GENERAL PRACTICE

Prevention of weight loss in the newborn infant during the first week or two of life by some artificial feeding, not only until the mother's supply of milk arrives, but even longer if the quantity or quality of her milk is insuf-

ficient, is frequently stressed in the literature. However, this will probably never be done routinely and effectually until obstetricians turn their newborn infants over to the pediatricians at birth. It is to be hoped that the time is not far distant when this will be the rule, at least in all hospitals, if not in private homes.

Too much stress cannot be laid on the periodic examination of all children, for more can thus be accomplished in the child than in the adult. Many conditions can be *prevented* in childhood that would have to be *treated* in later life. All known methods for preventing, or at least lessening susceptibility to certain diseases should be advised, such as vaccination, toxin-antitoxin, etc.

We take exception to a statement recently published that "tongue-tie should be let alone, because of the untoward hemorrhage which may follow an operation and prove fatal." The rare occasions on which such bad results would be likely to follow such a trifling operation are not an adequate reason for permitting a condition to exist that would interfere with proper nursing during the early months of life, resulting probably in undernourishment, and later in a decided impairment of normal speech.

COMMERCIALISM VERSUS THE MEDICAL PROFESSION

Recent editorials in some of the representative lay journals have hinted that there is a feeling, becoming more and more manifest in medical circles, against the invasion of that field by aggressive methods of modern business. One would infer from a casual perusal of these essays that the time-honored dignity of the profession is likely to be seriously compromised, and that in the too near future rampant quackery will stalk up and down the earth, while scientific medicine humbly seeks the remote recesses of the laboratory. Charlatanry, it may be said, is almost as old as original sin, and its advocates were just as rife in plying their trade on the banks of the Nile in the days of Pharaoh as they are bold today in scattering their detestable advertisements wherever they may catch a human eye.

There is this difference, however: the number of such advocates is now larger, and their audacity is great enough to lay claim to the same respectability as is enjoyed by all other men; whereas in the olden time they were despised by all save the ignorant and superstitious, and scarcely more than tolerated by them. Greed of gain is, at the bottom, the very pulse of all quackery, and is responsible for the rather remarkable activity of this sort of humbug wherever it is found. The marvels of scientific discovery have made the general public credulous about things they cannot understand, while the offer of "trial treatment free" is an additional incentive to belief among people of slender purse. The various forms of faith cure are especially pernicious since they contain enough truth to form the basis of a pseudophilosophy—a type that is particularly attractive to pedantic minds under stimulation of syllogistic reasoning and false analogy.

ARTS DEGREES AND PROFESSIONAL EDUCATION

As between the idea of the "college course for the A.B. degree" and what has been styled "the university view," the following disposition might serve as a *modus vivendi:*

For the university course for the A.B. degree, in which the degree itself is the objective, being regarded as an evidence of a literary education, the four-year course should be retained. To remedy the hardship, however, if any such really exists, imposed by this requirement on those for whom it is essential that they should "pass with as little delay as possible into the professional schools," grant to every student who enters himself in the professional school the right to proceed on a three-year course to the A.B. degree, on the condition, however, that after the completion of the course and the passing of the necessary satisfactory examination, the conferring of the Arts degree shall be postponed until after the candidate's graduation at the professional school.

MEDICOLEGAL AND LEGISLATIVE NOTES

Report of Hearing by the Healing Art Commission

The Commission to Study Laws Relating to the Healing Art organized at the Bellevue-Stratford Hotel, Philadelphia, November 16th. This Commission was appointed by Governor Fisher in accordance with a resolution passed by the last session of our Legislature. Following the formality of organization, the first public hearing was begun.

Senator William C. Freeman, chairman of the Commission, announced the purpose of the Commission to be the study of laws regulating the practice of the healing art, as used by the various states of our own country and of foreign countries; the study of this subject as it pertains to the local condition in this State; and the formulating of conclusions to be presented to the Legislature at the session of 1929 for the

purpose of enacting a law or laws to remedy the chaos which now exists.

C. D. Koch, Ph.D., Deputy Superintendent of Public Instruction, was the first speaker. He presented a detailed report outlining the legislative acts legalizing medical practice in Pennsylvania, from the first act, which was passed in 1875, to the acts under which the State is now operating. In view of the fact that the present agitation is sponsored by the practitioners of the various schools of drugless therapy, we append that portion of his report dealing with this subject.

The Medical Practice Act passed by the General Assembly June 3, 1911, as amended July 25, 1913, authorized the State Board of Medical Education and Licensure to establish regulations for State licensure in limited branches of the healing art. The Board, according to the provisions of the Act, is also authorized to supervise the instruction and teaching of the schools or colleges or individuals as is provided for in the case of medical schools and colleges.

The minutes of the Board of Medical Education and Licensure January 1, 1914, show that a committee was appointed to study the question of drugless therapy and the system of licensure to be established. A committee of the Board recommended that licenses be granted to five men practicing various systems of drugless healing. This was done after the committee had satisfied itself of the general character and fitness of the men submitting credentials—both as to the preliminary and professional education as well as their moral and professional character. The Board accordingly voted each a license to practice drugless therapy in the Commonwealth of Pennsylvania. The licensees then were requested to organize themselves into a committee and to elect their own officers, with the object of rendering themselves available to enter into consultation with the Bureau in furtherance of the object of organizing a system of licensure in the Commonwealth of Pennsylvania for men and women wishing to practice drugless therapy and of establishing the same. The following men were licensed by the Board: Henry C. Garbisch, Washington; Alfred J. Atkinson, Pittsburgh; William M. White, Pittsburgh; Aubrey W. Marchand, Philadelphia; LaForrest Potter, Philadelphia.

The minutes show that after full consideration and consultation with the members of the committee licensed to practice drugless therapy, a complete system of licensing persons practicing various methods of drugless healing was organized and put into force in the Commonwealth of Pennsylvania, as provided for in the Medical Act in 1911 and as amended in 1913.

The Board, accordingly, on February 11, 1914, adopted the following system of licensure of men practicing various methods of drugless healing, and put the same into force in the Commonwealth of Pennsylvania, as provided for in the Medical Act of 1911 and as amended in 1913, to wit:

That applications for licensure be received up to and including May 1, 1914, by application to the Bureau of Medical Education and Licensure.

That the term "Drugless Therapy" be adopted as the name under which to organize licensure for this class of persons.

That "Drugless Therapy" be defined to be that branch of medicine which directly or indirectly applies to any available means or method other than drugs or surgery for the prevention, alleviation, and treatment of disease.

That the Bureau further define the meaning of the term "Drugless Therapy" so that it officially and herewith be understood to include the following divisions and subdivisions.

1. Any treatment having the spine for a base, including (a) Chiropractic, (b) Napravit, (c) Spondylo-Therapy, (d) Chiropractic Spondylo-Therapy, (e) Neuropathy, (f) any other treatment having the spine for a base not here specified.

2. Any treatment having the mind as a base: (a) Suggestive Therapeutics, (b) Metaphysics, (c) Vita-Therapy, (d) Magnetic Healing, (e) any other treatment having the mind for a base not here specified.

3. Any system, method, science, or art of treatment based on 1 and 2 which is in existence or may come into existence and not already specified under the above-named divisions.

The license issued to those practicing any branch of Drugless Therapy will not confer the right to use the title of "Doctor," nor will it authorize the holder to practice pharmacy, dentistry, osteopathy, to treat persons sick with quarantinable diseases, to practice surgery, midwifery, or medicine by the use of drugs administered internally, or applied externally.

That, thereafter, no person be admitted into the Commonwealth of Pennsylvania for the purpose of practicing any form of Drugless Therapy except he or she conform to the following requirements:

1. A preliminary education prior to entering upon the study of Drugless Therapy equal to that required of medical students prior to entering upon the study of medicine, these requirements to be passed upon by the Bureau of Professional Education of the Department of Public Instruction.

2. The satisfactory completion, at an approved school, of a course of study consisting of the following:

(a) The first two years of study prescribed by the medical schools of this Commonwealth, excepting those portions relating to materia medica, pharmacy, pharmacology, toxicology, and surgery.

(b) A third year of study including hygiene, preventive medicine, symptomatology, diagnosis, pathology, and therapeutics relating to drugless therapy.

(c) The satisfactory passing of a licensing examination conducted by the Bureau of Medical Education and Licensure, after having qualified on the requirements of (a) and (b) as well as upon character and moral standing.

That, with the exception of those otherwise provided for by law, any person engaged in practicing any branch of Drugless Therapy, as above described, continuously since on or before July 25, 1913, in any one county of the Commonwealth of Pennsylvania who can present satisfactory evidence of good moral and professional character as well as satisfactory evidence of a resident course of not less than one college year in a reputable school or college teaching the branch of Drugless Therapy which he or she is engaged in practicing shall, upon application to the secretary of the Bureau of Medical Education and Licensure, be entitled to an examination before a committee appointed by said Bureau. And upon said person satisfying this committee of his or her ability properly to practice the said branch of Drugless Therapy, it shall be the duty of said committee to recommend such persons to the Bureau of Medical Education and Licensure as en-

titled to a license under provisions of the Act of July 25, 1913.

Further, that any person who has been practicing any branch of Drugless Therapy continuously in one or the same county of the Commonwealth of Pennsylvania for a period of three years or more previous to February 1, 1914, and can furnish satisfactory evidence of this fact, as well as satisfactory evidence of education and good moral and professional character, in the particular branch he or she is now engaged in practicing, may be licensed forthwith.

And further, that any person practicing any form of Drugless Therapy in the Commonwealth of Pennsylvania at the present time who cannot furnish evidence as required above shall, upon application to the Secretary of the Bureau of Medical Education and Licensure, be granted the privilege of taking an examination to prove his or her fitness before the committee appointed by said Bureau, and upon passing the same satisfactorily shall be recommended to the Bureau for final action and licensure.

That such examination shall be in writing and shall consist of questions on the subjects of anatomy, physiology, pathology, symptomatology, diagnosis, hygiene, and in the particular branch of Drugless Therapy which he or she is engaged in practicing; and all candidates must attain a general average of not less than seventy-five (75) per cent nor fall below a grade of fifty-five (55) per cent on any one subject.

This initial examination is final, and no reëxamination will be granted unless the applicant qualifies under the educational requirements embodied in the Act.

And, provided further, that such license when granted will entitle the licensees to the privilege of practicing only such branches as are included in the "Drugless Therapy" as defined in the minutes of the Bureau. The words "Drugless Therapy" shall be written plainly across the face of such license, which license shall have the standing as prescribed in the Medical Act of July 25, 1913. In no way shall the license entitle the licensee to practice surgery, obstetrics, the administration of drugs in any manner, nor to treat quarantinable diseases.

The minutes show that in 1914 the Board considered applications, in accordance with the system of licensure established in limited branches, as follows:

In Chiropody:

215 persons were licensed without examination.
39 persons were entitled to take the examination.
16 persons were rejected for examination.

In Drugless Therapy:

84 persons were licensed without examination.
144 persons were entitled to take examination.
63 persons were rejected for examination.

Several members of the Association of Licensed Neuropathic Physicians of Philadelphia told the Commission that they had had fair examinations and satisfactory relations with the present Board of Medical Education and Licensure. They stated that they considered any lowering of the present standards to be dangerous and undesirable.

Various members of the schools of Naturopathy and Neuropathy presented arguments for their schools during the remainder of the morning.

The afternoon session was opened by our president, Dr. A. C. Morgan. He outlined the needs for proper regulation. He presented official communications from the State Department of Education citing practitioners in this State who were not licensed. This evidence brought forth responses from the audience, as some of those whose names were mentioned were present and had presented arguments at the morning session.

Dr. Howard L. Rypins, secretary of the New York State Board of Medical Examiners, outlined the present law he is endeavoring to enforce. He stated that New York has driven out about 1,000 illegal quacks and charlatans within the last year. He stated that many of this swarm had migrated to Pennsylvania and were "added to the present existing infection."

Drs. John A. Kolmer and Jay F. Schamberg presented learned and dignified arguments appealing to the Commission to make no changes tending to lower the standards. They outlined the progress of modern scientific medicine. They emphasized the responsibility of the State for providing highly trained and competent physicians for the healing of those who are sick of body and mind, and whose sickness, of itself, often impairs their judgment to choose the competent from the incompetent.

Our secretary, Dr. Walter F. Donaldson, presented voluminous documentary evidence outlining the position of our Society. He read abstracts from these communications.

The hearing was continued to the following day. The Chiropractic school presented their plea for a separate board of examiners, claiming that it was unfair for any one except a chiropractor to judge the qualifications of chiropractors.

The next public hearings of the Commission will be in Pittsburgh on January 16th and 17th. Another session will be held in Scranton at a date to be announced later. These meetings are open to the public. The closing hour each day was devoted to discussion from the floor. This plan will probably be followed at subsequent hearings.

Degree of Care Required in Treating Broken Leg.—In a malpractice action for causing gangrene in plaintiff's foot and ankle in setting and treating his right leg, the bone of which had been broken between the knee and thigh, the plaintiff submitted the following specifications of negligence in the alternative: (1) failure to use sufficient or suitable padding on the foot or ankle, (2) failure to examine or detect injury to the foot or ankle, (3) failure to reëxamine and treat the dry gangrene when requested, (4) negligently maintaining the pressure of excessive weights when evidence of

injury was apparent, (5) failure to relieve the foot and ankle of presure in time to avoid injury, and two others of similar import to the fifth.

There were three areas of dry gangrene, one above the calf of the leg, one above the heel, and one on the instep. The two latter caused the serious trouble—deformity of the foot. "But," the court said, Seewald v. Gentry (Mo. App.) 286 S. W. 445, "however severe his pain and suffering and however deformed and useless his foot may be, he cannot recover unless the defendant breached a duty that he owed plaintiff. A physician or surgeon undertaking the treatment of a patient is not required to possess or exercise the greatest learning or the highest degree of skill. He is only required to possess and exercise that degree of skill and learning ordinarily possessed and exercised by the members of his profession in good standing, and it is his duty to use reasonable care and diligence in the exercise of his skill and the application of his learning, and to act according to his best judgment."

It was held that there was no substantial evidence to support the fourth, fifth, sixth, and seventh specifications of negligence. The first specification, failing to use suitable and sufficient padding, was based on the occasion when defendant improvised a shoe arrangement and reapplied weight connections. Defendant propounded a hypothetical question to various physicians and surgeons to show his treatment was correct, but in his question it was assumed that he wrapped six or seven layers of bandage round the ankle, and the plaintiff's testimony was to the effect that only one thickness was used. This question was held for the jury. The second and third questions were also held for the jury, the plaintiff's evidence, contradicted by that of the defendant, being that he received but little attention from defendant from the time the shoe arrangement was applied.

Reversing judgment for plaintiff and ordering a new trial the court said that the three specifications of negligence on which there was sufficient evidence to go to the jury "should be so submitted that the jury will be clearly informed that defendant was only required to exercise the ordinary skill and care ordinarily possessed and exercised by members of his profession under similar conditions."—*Medical Journal and Record*, November 2, 1927.

New Nursing Law in Alabama.—In Alabama a new nursing bill has been passed which raises entrance requirements for schools of nursing from grammar school to two years of high school, with an additional requirement of a full high-school course by July 1, 1930. All schools with less than fifty beds are required to have six months' affiliations with larger schools, and pediatrics is added as a required subject in the curriculum. Registration is now compulsory.

Provisions of Michigan's New Tuberculosis Code.—The following are the provisions of Michigan's new tuberculosis code which became effective in September of this year, and the enactment of which provides Michigan with excellent modern equipment for warring against the disease:

SECTION 1.—Tuberculosis is hereby declared to be a communicable disease dangerous to the public health. Every practicing physician is required to notify in writing the health officer of the city, village, township, county, or district in which the case occurs, of every case of tuberculosis which comes under his professional observation. The notice shall be made upon blanks to be furnished by the State Commissioner of Health, and shall include such information as may be required by the said State Commissioner of Health. The notice herein provided for shall be given within twenty-four hours from the time the physician determines that the patient is afflicted with tuberculosis.

SECTION 2.—The State Health Commissioner is hereby authorized to make such rules and regulations as he shall deem proper for the discovery and control of persons afflicted with tuberculosis, and to establish rules of procedure for the guidance of health officers and others in the control and hospitalization of tuberculosis cases. Nothing in this act shall be construed or operate to empower or authorize the State Commissioner of Health, or any health officer, or their representatives, to restrict in any manner the individual's right to select the physician or mode of treatment of his choice, provided, that sanitary laws and the laws, rules, and regulations relating to infectious and contagious diseases are complied with.

SECTION 3.—If it shall be determined by the health officer of the city, village, township, county or district, in case a health district shall be formed, that there is any person afflicted with tuberculosis residing within such city, village, township or district who requires care, treatment or hospitalization and who cannot, because of financial inability, pay for such care, treatment, or hospitalization, it shall be the duty of such health officer to provide such care, treatment, or hospitalization as such person requires, in accordance with the rules and regulations made by the State Commissioner of Health. Nothing herein contained shall be construed to abridge the authority of the health officer in furnishing care, treatment, or hospitalization to such person, pending his determination of the financial ability of such person so afflicted, but it shall be the duty of such health officer, immediately upon being apprised of any case reported to him, to extend aid and assistance to such afflicted person, and promptly to furnish such care, treatment, or hospitalization as such person may require. Upon the determination of the health officer that such person is unable financially to pay for the care, treatment, or hospitalization so furnished, it shall be the duty of the health officer to make a detailed report to the board of supervisors of the county wherein such health officer resides. The health officer shall present to the board of supervisors of such county an itemized statement of the expenses incurred in the care, treatment, or hospitalization of such person, with his approval of the reasonableness of such charges. The county shall be chargeable with such charges as the board of supervisors decides are reasonable, unless the board of supervisors finds that such person is financially able to pay for such care, treatment, or hospitalization.

SECTION 4.—The cost of all printed matter required by this act to be furnished by the State Commissioner of Health shall be paid by the Auditor General out of the general fund of the state treasury, on presentation of vouchers approved by the State Commissioner of Health.

SECTION 5.—Any person who violates any of the provisions of this act or the rules and regulations of the State Commissioner of Health shall be deemed guilty of a misdemeanor, and upon conviction shall pay a fine not exceeding one hundred dollars.

SECTION 6.—Act number twenty-seven of the Public Acts of nineteen hundred nine, as amended, and any other acts or parts of acts in conflict herewith are hereby repealed.—*Bulletin of the National Tuberculosis Association.*

JOTS AND TITTLES

Our Own Contribution to the Symposium on Pernicious Anemia

In the discussion of the symposium on "Pernicious Anemia," published elsewhere in this JOURNAL, Dr. Clement R. Jones, of Pittsburgh, has presented twelve recipes for preparing liver. In a part of his discussion not published in the abstract, Dr. Jones stated that he understood there were twenty-two ways of preparing liver. This statement "intrigues" us—to use a term current in modern literature. We wager that if we had to eat liver three times a day for the remainder of our natural life, we should most certainly find more than twenty-two ways of cooking it. Just by way of proving this to ourself, and possibly incidentally offering some suggestions to victims of the diet, we have listed a number of additional ways of cooking this delicacy. Not being a "culinary expert," as was Dr. Jones's authority, but merely one of those cooks who composes by inspiration, using a handful of this and a pinch of that, we have not attempted to give definite recipes, but merely to suggest new combinations which may readily be worked out by those competent to handle this special diet.

Liver wiggle. This may be prepared in a manner similar to shrimp wiggle, combining minced liver with peas and cream sauce, and serving on toast.

Jellied liver. This may be prepared with unflavored gelatin, mincing the liver and possibly combining it

with a little chopped chicken meat. Liver and chicken broth mixed may be used to dissolve the gelatin.

Liver à la king. This may be prepared similar to chicken à la king with mushrooms and cream sauce, and would be improved by the addition of a small amount of chicken.

Liver patties. The above filling may be used for filling patty shells.

Liver balls. Combine minced liver with mashed potatoes and fry in deep fat.

Liver salad. Several different varieties of attractive salad may be prepared with chopped cold liver. It may be combined with a small amount of chicken and celery and served with lettuce and salad dressing. It may also be combined with cooked macaroni, celery, onion, and green pepper, or it may be served chopped with sliced tomato, lettuce, and salad dressing. The possible combinations are many and varied.

Liver tomato aspic. Make tomato aspic in the regular way with tomato juice, gelatine, and seasoning, and add the necessary portion of chopped liver.

Liver tomato soup. The remaining liver broth may be combined with canned tomato soup to make a very palatable dish. A little chicken or other meat stock will improve it.

Jellied liver salad. Dissolve gelatin in liver broth, add vinegar, minced liver, chopped cabbage, green pepper, onion, parsley, celery, and seasoning.

Liver scrapple. In certain parts of Pennsylvania it is possible to buy "pudding" which can be boiled in hot water and thickened with corn meal. A palatable way of serving liver would be to substitute ground liver for a portion of this "pudding."

Liver potpie. Liver might also be served in potpie, boiled or baked, combined with potato, onion, meat stock and the necessary pastry.

Drop dumplings. Most good cooks know how to make drop dumplings. A palatable camouflage for the anemia patient might be prepared by mixing ground liver, previously cooked, in the dumpling dough before boiling.

Liver croquettes. These may be prepared as any other meat croquette, grinding the liver until very fine, and mixing with broth, bread crumbs, and egg. Fry in deep fat.

Liver pudding. Mix ground liver, bread or cracker crumbs, egg, seasoning, and milk. Bake in a casserole.

Liver au gratin. Mix minced liver, mashed potato, and milk, with seasoning and butter, sprinkle grated cheeese over the top, and bake.

Liver and spaghetti. This may be prepared by combining chopped liver with the usual recipe for spaghetti with cheese and tomato sauce.

Baked beans and liver. A very palatable dish may be prepared by combining canned or home-baked beans with liver. Cover the liver with previously cooked beans, and bake. Lima beans may be substituted for soup beans.

String beans and liver. Cook beans with some other meat and add cooked liver just before serving.

Liver and cabbage. Cabbage or sauer kraut may be cooked with other meat and potatoes, and cooked liver added before serving. (We have it from one of Dr. Jones's "culinary experts" that this would be "awful." However, if we liked sauer kraut—which we don't—and if we had to eat liver—which we don't—we should be willing to try anything once!)

Roast liver. Line roaster with liver, fill with bread filling combined with oysters, cover with liver, and roast.

Liver soup. Boil bones from the family roast, steak, or chops to produce stock. In this, cook the required portion of chopped liver, and add rice, beans, or other vegetables as desired.

Creamed liver and egg. Boil egg hard. Add chopped white and minced liver to cream sauce. Serve on toast with grated yolk sprinkled over top. Add a dash of paprika.

Liver soufflé. Prepare a cream sauce, add grated cheese, and stir over fire until cheese is melted. Add chopped liver and beaten eggs. Bake and serve promptly.

Carrot salad. Grate raw carrots, add a little chopped raw apple and chopped liver. Serve with lettuce and salad dressing. This would be very nice also combined with lemon- or orange-flavored gelatin.

Broiled liver and jelly. By way of varying the taste, broiled or baked liver would be very nice served with currant jelly.

Space forbids further suggestions. We had intended to suggest liver mince pie and snitz and nepp (?) with liver, but the editor fails to appreciate further culinary efforts on our part.

If any of our correspondents have additional recipes of value, please send them in addressed to the editor of Jots and Tittles. We can not offer a prize for the best, but we can promise you our undying gratitude.

More About Lay Education

"Most important is the need for an organized campaign to educate parents to the urgent need of early correction of defective vision due to errors of refraction," says Dr. S. Weir Newmayer in his paper appearing in this number of the JOURNAL. Daily the need appears to be growing greater for organization of a campaign of lay education. More and more suggestions for various phases are reaching the editorial desk. More and more are the newspapers publishing articles on health. If we do not want to have the field preëmpted by quacks, we should lose no time in responding to the cry "Come over into Macedonia and help us." The October number of the *American Medical Association Bulletin* tells an "intriguing" story of the "Health and Hygiene" column appearing daily in the *Detroit News*. We wish we had space to tell you about it, but the best we can do is to refer you to the *Bulletin*. Read it and be convinced, whether you will or no, of the crying need for direction on the part of the profession of the swelling tide of health activities.

Scientific Notes

That the hormones are peculiarly and may be specially related to sex; also that the possibilities of further evolution of man and other higher animals probably depends in considerable measure upon further changes and advances in organs of internal secretion was the theme of Dr. Oscar Riddle, of the research staff of the Department of Genetics of the Carnegie Institution of Washington, at the opening lecture of a series given annually under the auspices of the Institution. He presented evidence to show that the real biologic and chemical difference between the males and females of any species rests upon an initial and persistent difference in the rate at which the germ cells, embryos, and adults of the two sexes oxidize food materials and release energy—in short, upon their rate of metabolism. The males at all stages of their life show the higher, females the lower, metabolic rate. Internal secretions are among the most important regulators of metabolism, and thus are intimately related to the causation of sex difference. The results of sixteen years of investigation were cited

to establish that in birds the reversal of sex has been readily and repeatedly accomplished, accompanied by change in the rate of metabolism to or toward that characteristic of the ultimate sex assumed by the bird.

From a study conducted in the Nutrition Laboratory of the Institution, it was found that, in the few cases measured, in hybrids the basal metabolism showed a higher rate than in the pure-bred parents. This indicates that what in the past has generally been called the "increased vigor" of hybrids is in reality an increased rate of metabolism.

It has been found that glukhorment, recently announced as a specific in diabetes and a perfect substitute for insulin, contains synthalin. While this is a disadvantage in treatment, since it is difficult to determine the line between beneficial and harmful doses, the discovery of its presence in glukhorment is said to be a decided advance in the science of metabolism.

News reports state that, according to the *Medizinische Klinik*, Drs. Werner Friedlaender and Walter Petow, of the Berlin Charity Hospital, have definitely determined that migraine is due to defective functioning of the gall and liver. The provocative agent is said to be a derivative of a protein product of the type of histamin, which is often found in the blood of migraine sufferers. By giving gradually increasing doses of histamin, the doctors are said to have accomplished complete cures in even the most protracted cases. If true, this is a great discovery.

Announcement has been made that Solution S. T. 37, developed by Dr. Veader Leonard, of the Johns Hopkins School of Hygiene and Public Health, and Dr. William A. Feiner, will kill all disease germs with which it comes in contact, although it is not injurious to the most delicate human tissue, even when swallowed in large quantities. Its germicidal power is said to be due to the presence of hexylresorcinol.

A photometric method for detecting tuberculosis by examination of the blood has been announced by Dr. Arthur Vernes, head of the Prophylactic Institute, Paris. Fifteen thousand tests have verified the accuracy of his method, according to Dr. Vernes, who said that unsuspected cases have been revealed, making it possible to give preventive treatment before the disease became far advanced.

Superiority of Advertised Products (?)

The magazines are full of talk about the superiority of advertised products. This is undoubtedly true in those magazines which choose their advertising with the same care as that exercised with regard to Atlantic advertising. But how about the type of advertising carried in some of the newspapers of our State? It is not uncommon to see advertising of the most pernicious quack remedies in one column, and high-sounding sentiments expressed in the editorial columns nearby. We have been shocked and horrified at some of the rotten newspaper advertising which has fallen into our hands. Won't you please send us a copy of your home-town newspaper, and, with your coöperation, we can promise you some interesting reading in an early number of the Journal. Please don't forget!

Auto Tags

Did you send in your application for that auto registration tag for 1928? If you live in Harrisburg as we do, and could see the line stretching from the Highway Department half way to Philadelphia, you would not wait until the last minute to do it. We've told you, so don't blame us if you have to leave your car in the garage for the first week of the new year!

PHYSIOTHERAPY

Physical Therapy in the Treatment of Athletic Injuries.—The present widespread participation in athletics gives rise each year to a considerable group of injuries requiring special treatment. The recovery of the patients in this group is favored by the fact that most of them are young, in fine general condition, and seldom the subject of focal infection. Satisfactory treatment is rendered difficult on the other hand for the reason that both the athlete and the coach insistently demand the earliest possible return to strenuous competition. Furthermore, instead of following the patient through to maximum improvement, as is the case with the injured worker under the compensation laws, interest in and financial support of the player are apt to cease if he is too badly injured to return to play before the last of the season, or if his injury occurs at that time. The types of injury most frequently met with are muscle contusions, joint sprains, torn muscle insertions, tenosynovitis, and subperiosteal hematoma.

Muscle Contusions: These are by far the most common of athletic injuries, especially in football, where the shoulder of the tackler strikes the anterior muscles of the thigh of his opponent, and in many similar conditions. Better results in the majority of cases are obtained by the employment of diathermy and the sinusoidal wave immediately after injury. A less painful and even more efficient method of decongestion, thereby preventing the organizing of exudate and transudate, would be by substituting the Morton wave for the sinusoidal. Being entirely a passive contraction, this is much less painful to the injured muscle. When the case is first seen several days after the injury, prolonged diathermy, thirty to forty-five minutes, followed by the Morton wave, is indicated.

Joint Sprains: Sprains are exceedingly common in athletic injuries. The baseball finger is usually badly dislocated, which must be set, and should be followed by paraffin bath, or whirlpool bath, saline and cuff diathermy, and static brush. When the latter is not available, gentle longitudinal and circular effleurage, followed by alternate finger-tip pinching, is the massage procedure of choice. In the case of the shoulder, a relatively large degree of functional disability often follows a comparatively slight injury. The use of radiant heat, direct diathermy, and static sparks will usually obtain a surprising degree of functional return. When the capsule of the joint is torn, an adequate fixation harness or operative repair must be coupled with prolonged and thorough treatment. In the common injuries of the knee joint, external and internal lateral sprains may be treated as outlined for the shoulder. In a synovitis with much effusion, direct diathermy followed by static Morton wave, applied by means of an inverted U-shaped electrode excluding the patella, is advised. The treatment of internal semilunar cartilage dislocation is usually unsatisfactory in the absence of a hinge-cage brace to prevent recurrence. Tears in the crucial ligaments also require fixation apparatus and prolonged rest, with diathermy. Hemorrhagic infusion into the joint should be aspirated. Treatment by diathermy alone is unsatisfactory in these cases. In sprains of the ankle the ligament should be relaxed by means of a lift on the heel, a flat-foot or reversed flat-foot strapping, and used slightly from the first. Paraffin or whirlpool bath, direct diathermy, and static brush and sparks are valuable aids in recovery. In long-standing chronic sprains we find galvanism of value.

Tenosynovitis: Tenosynovitis is most common in the tendo achillis. It is treated by some of the forms of

external heat already mentioned, modified diathermy, static brush, and effleurage, coupled with rest in the acute stage. Every effort must be made to remove exudate before it has a chance to organize. Torn muscle insertion demands relaxation of the muscle, often with the assistance of sand bags, and an effort to improve the circulation by means of superficial heat and diathermy.

Subperiosteal Hematoma: This is the real "Charlie Horse" for which the muscle bruise is often mistaken. The absorption of the clot may be augmented by the use of diathermy after the tendency to hemorrhage has stopped. After several days, massage if superficial or Morton wave if injury is deep-lying, may be used.—*Physical Therapy, X-Ray, Radium.*

Traumatic Arthritis—The x-ray is of value in these injuries to eliminate chronic arthritis with bone changes, fractures, and dislocations. There are four essential points in the management of traumatic arthritis. (1) complete rest, (2) encouragement of absorption of extravasated blood and other residues of congestion, (3) passive motion, and (4) voluntary exercise and gymnastics. This is one place in therapy where physical remedies stand out in efficiency. Actually to get the greatest benefit in these cases, direct application of heat is imperative. In mild cases, conductive and conversive heat will suffice when followed by other remedies. However, no direct treatment will prove so valuable as conversive heat.

It is only right and proper that diathermy should be employed, since it hastens absorption of exudates, relieves congestion and pressure, thereby relieving pain, increasing nutrition, hastening healing, and relaxing the spasm with which the joint is frequently surrounded. Treatment should last at least thirty minutes, preferably longer, and should be given to the tolerance of the patient with comfort, and not limited to a specific prescribed milliamperage. Under the influence of diathermy, the patient will tolerate a greater amount of forcible manipulation when such treatment is indicated. The method of application varies with the joint to be treated, treating not only the joint, but surrounding parts as well, because it facilitates other measures such as massage and exercise. For this reason, the lateral method applied to the joint serves well in only a few instances. Elimination of the side-to-side method is necessary simply from an anatomic and physiologic standpoint. Diathermy cannot be applied to the ankle by placing the electrodes laterally as efficiently and comfortably as by placing one electrode on the plantar surface of the forefoot, and the other on the leg posteriorly. The opposite is the case in the shoulder. Here, the best method is with the clamp-sponge electrode. Special methods of application are indicated in other joints; therefore, a technic should be devised for each individual and each part.

The application of diathermy should be followed by scientific massage. Massage means a manipulation or handling of the soft tissues by movable pressure in the form of stroking, rubbing, pinching, kneading, or beating, performed with a therapeutic aim. Do not confuse it with medical gymnastics, which is treatment by means of exercise of the organs of the motor apparatus. In traumatic arthritis both methods have many points in common, but they should be understood as separate methods of therapy. You can massage a hematoma of soft tissues, but it is not possible to apply gymnastics, since the soft tissues are certainly not organs of movement. In addition, employ manipulation, gymnastics, and the sinusoidal current. Also occupational therapy, when possible, is of prime importance. Mechanical support is often required locally to rest the injured part and aid in recovery. The support should add to the ease and comfort of the patient and at the same time not restrain the rest of the body. This may be produced by bandaging, adhesive, splints, or casts. Hydrotherapy may also be used with advantage in some cases where a combined result from heat and mechanics is desired. This is well performed by the whirl-pool bath.

Besides all these physical-therapy methods, do not forget drugs. The main prerequisite in all the modalities to be employed should be a thorough and complete diagnosis. No effort should be made to use them without a known object in results to be obtained. The kind and method of physiologic purpose desired will definitely imply a certain method in the course of treatment, for every modality has its limits in reactions relative to normal or pathologic tissue, thereby requiring a close observation in physical and chemical equations.—*Physical Therapy, X-Ray, Radium.*

Galvanic Technic.—The negative pole is alkaline in its reactions from a chemical standpoint. It is a vasodilator, expands blood vessels, and increases the nutrition through an increased flow of blood to the part. It is a tissue softener, both through its effect on the circulation, and through its peculiar affinity for the water molecule—its electrolytic action—which attracts moisture to the part. It is tissue-destructive in the higher potential, and consequently will actually break down tissue when properly employed. It ionizes elements of the halogen group and acids. The positive pole is acid in character, a vasoconstrictor, narrowing the blood supply of a part. It electrolizes water away from the point of application, and consequently hardens and tones up tissues. It ionizes metals and alkalines.—*Physical Therapy, X-Ray, Radium.*

Influence of Light and Darkness on Certain Disease Conditions.—Louise Pearce and C. M. Van Allen, in the *Journal of Experimental Medicine* have reported a series of experiments to determine whether the light environment influenced the reaction of rabbits inoculated with the Treponema pallidum. One group was exposed to diffuse sunlight filtered through window glass, another group was constantly exposed to artificial light with a wave length of from 3022 to 5790 Angstrom units (Cooper-Hewitt), and a third group was kept in complete darkness. Each condition produced a distinct effect. "In general, the efficiency of the reaction to infection increased with the amount of light received and with the constancy of the exposure." Louise Pearce and Wade H. Brown, in the same publication, reported the same type of experiments, applied to rabbits suffering from a malignant disease induced by a transplantable neoplasm. To quote from an abstract in the *Medical Journal and Record*, "Under the influence of constant light the level of malignancy was lower than in control animals living under ordinary conditions of diffused sunlight. Under the influence of constant darkness the level of malignancy was somewhat lower than in control animals but the effect of this environment was modified by the special character of the disease prevailing at this time. The incident of bone metastases was unusually high, but it was greatly increased in the rabbits kept in constant darkness. These observations furnish experimental evidence in support of the belief that there is a correlation between the factor of light and the manifestations of an experimental malignant disease."

PUBLIC HEALTH

Secretary Hoover's Child-Health Program.—Secretary Hoover has enunciated an ideal program for child health whose attainment will require the combined efforts of the medical profession and all welfare agencies for many years to come: "There should be no child in America that has not been born under proper conditions; that does not live in hygienic surroundings; that ever suffers from under-nutrition; that does not have prompt and efficient medical attention and inspection; and that does not receive primary instruction in the elements of hygiene and good health."

The Insurance Company in Public Health.—Advice to consider themselves not merely insurance agents, but public-health workers, was given recently to 500 field representatives of the Metropolitan Life Insurance Company in Philadelphia by Dr. A. F. C. Fiske, third vice-president. The speaker revealed that the company, in connection with its health work, is engaged in research to find a cure for the common cold. "Twenty millions of dollars," Mr. Fiske said, "have been spent by the welfare division of the Metropolitan Life during the last nineteen years toward a gradual reduction of the mortality rate among policyholders. In spite of the fact that the industrial policyholder belongs to a group having a lower standard of living and is subject to greater hazards than the general population, yet in the last thirteen years he has gained nine years in his expectation of life, compared with a five-year gain in the population at large." He said a coöperative enterprise had been found through experiment to be best, and that public-health work, not as a cure, but as a preventive of illness, had proved "good business."

Nursing Notes.—Coöperation is the principal note struck in *Anagrams* for October—coöperation between doctors and nurses, between the laity and nurses, and between welfare associations and nurses. For the first time in history the nursing profession had a booth at the American Hospital Association Convention in Minneapolis. At Detroit, at the convention of the American College of Surgeons, an interprofessional meeting was held, attended by both physicians and nurses, and addressed by Jane Van de Vrede. Miss Van de Vrede stressed the fact that doctors and nurses have always worked together for the best interests of the patient, saying that "in the early days the doctor recognized the nurse as his coworker," and outlining the causes of present-day misunderstanding. She continued: "We cannot hope for progress until there is a mutuality of understanding, respect for each other's technic, and coöperation of endeavor in producing harmonious results. There are many hopeful signs and some tangible evidence of coöperation in local and state groups of both professions."

The Italian Government Enters the Cancer Fight.—At a recent meeting of the Italian League Against Cancer, a letter from the Government was made public endorsing the League and its aims, and offering it substantial aid, according to a bulletin of the American Society for the Control of Cancer. In brief, the Government has decided: (1) to become enrolled in the Italian League Against Cancer; (2) to establish a special cancer clinic in the central dispensary; (3) to put at the disposal of the clinic the whole organization of the central dispensary; (4) to invite the Department of Hygiene and Public Health to name a physician to head the technical organization of the clinic; (5) to appoint a medical body of trained specialists whose services can be utilized in and outside of the clinic. The chief functions of the clinic are: (a) to diagnose cases of cancer as early as possible; (b) to establish a center of activity for the dissemination of information; (c) to collect statistical data; and (d) to secure the hospitalization of indigent, inoperable patients. The Government will grant a subsidy of 1,800,000 lire to the communes, provinces, and public-welfare institutions for aid in the diagnosis and treatment of cancer and malignant tumors. In addition, it has set aside 200,000 lire for the establishment of scientific courses of instruction designed to prepare a medical personnel that shall be specially equipped for the treatment of cancer.

"Little Boy Blue" Contest.—The City of Middletown, N. Y., held a "Little Boy Blue" contest to stimulate interest in the toxin-antitoxin campaign held last October. The judges selected from among the contestants the boy between three and six years of age who best typified the lad immortalized by Eugene Field's poem. The winner of the contest was photographed and his picture was used on the outside cover of the city's toxin-antitoxin circular.

The Pittsburgh Skin and Cancer Foundation has recently issued the fourth annual report of its outpatient department. It shows that 780 new patients were admitted to the Foundation, an increase of 134 over the previous year. The total number of treatments given was 7,025, an increase of 164 treatments. There were 524 patients referred by agencies directly under the management of the medical profession, an increase of 92 patients. Nonmedical agencies referred 256 patients, an increase of 42. Reports showing the number of treatments for four consecutive years indicate a constant and steady increase in the service of the Foundation to the community.

Bovine Tuberculosis.—While more than 1,000,000 dairy cattle, out of 30,000,000 head tested for tuberculosis, have been destroyed, the industry is in better condition today than it was ten years ago when the campaign against the disease was inaugurated. Such was the opinion expressed by Dr. John R. Mohler, chief of the Bureau of Animal Industry, United States Department of Agriculture, at the recent Eastern States Tuberculosis Conference. Although we have reached the point where we can look forward to the time when this disease will no longer be the cause of serious losses, it is very necessary to maintain constant surveillance over the disease in order to keep it under control.

Fear expressed by many people in the beginning that the campaign would turn the public taste against milk consumption has proved to be unfounded, according to Dr. Mohler. On the other hand, he said, the annual consumption of milk in the United States has increased more than 49 quarts per capita since 1918. During 1926 the public consumed 56 billion pounds of milk and cream, an increase of 2 billion pounds over the quantity consumed in 1925.

Coincident with the expansion of the tuberculosis-eradication campaign has been the aroused interest of cities and towns in a better milk supply. During the last four or five years a large number of cities and towns have adopted ordinances requiring that all milk sold under their jurisdiction must come from clean herds. A total of 874 cities and towns have adopted ordinances requiring the tuberculin-testing of cattle furnishing milk for their use. Reports indicate that,

with the exception of about one per cent, these ordinances are fairly well enforced. The action of such cities as Chicago, Cleveland, Detroit, Louisville, and Boston in promulgating tuberculin-testing requirements has stimulated interest in the subject. In addition to the 874 cities having tuberculin-testing ordinances, 375 provide an option between the tuberculin test and pasteurization. Thus a total of 1,249 municipalities have taken positive steps to safeguard their milk supply from the possibility of disease transmission.—*U. S. Department of Agriculture.*

Food Poisoning by Rats.—The matter of food poisoning by rats is still an important problem. Meyer and Matsumura, of the California Hooper Foundation for Medical Research, found approximately 8 per cent of the rats examined infected with one or two transmissible bacterial diseases, 2 per cent shedding virulent types capable of infecting food, and, further, that 6 per cent near slaughterhouses and retail merchants could do this.

Feces were added to food of kittens and tame rats and four rat-borne diseases were produced—hemorrhagic septicemia, plague, rat typhoid, and pseudotuberculosis. The first, being similar to plague, has complicated the campaigns against it, but now that the specific organism has been located and classified, the disease can be definitely diagnosed.

If conditions exist as these observers picture them, it is high time that a very definite program for the eradication of the rat be instituted, for there are no doubt worse conditions elsewhere than these men found. —Abstract by H. D. Cashmore from *Hygeia,* Vol. 5, No. 6.

State Health Department News

The Department's Advisory Board recently passed and promulgated a number of regulations. The first requires borough and first-class township health officers to have instruction in health work. The instruction may be given in any school acceptable to the Secretary of Health or in a course outlined by the Department. In lieu thereof, experience in work of this character may be offered. The Secretary of Health, however, has the right to call in for personal examination, on the basis of this experience, any health officer within the class above stated. The second regulation changes rules relative to the interment, disinterment, and other disposition of dead bodies. The third regulation places Malta fever and tularemia within the reportable diseases, and defines quarantine as of three types: absolute, modified, and partial, and classifies the communicable diseases thereunder. The final positive regulation makes it illegal for any person quarantined for communicable diseases to be exposed in any public place, including streets. In addition to the above, a regulation was passed repealing a number of obsolete rules.

Mercer County has developed plans for a tuberculosis hospital. The Department will supervise the construction of this sanatorium, which is one of the provisions of the act of Assembly making institutions of this character possible.

The Reading Council of Social Agencies recently held a meeting at which Dr. Haven Emerson, professor of public-health administration of Columbia University, was the main speaker. State Secretary of Health Appel presented the views of the Department, and the steps which Reading should take with reference to the sewage-disposal problem in that locality.

Work on the first unit of the Children's Hospital near Elizabethtown is progressing most satisfactorily. The general construction of this and other units is under the direct supervision of the Bureau of Engineering, with Engineer A. Coleman Mark in charge. Bids for the second unit were let some time ago, and the Herzog Construction Company of Philadelphia were the successful contractors. The 1927 Legislature made an appropriation of $350,000 to carry on the work.

HOSPITAL ACTIVITIES

Is Fumigation Essential?—It is presupposed that this query refers to the attempt at the destruction of the causative organisms of contagious disease. As our knowledge grows in regard to the methods of transmission of contagions, our faith in the flooding of rooms with gases diminishes. The use of sulphur and formaldehyd for the purpose seems to be on the wane. Physicians are coming to be more than ever convinced of the infrequency of air-borne transmission of these conditions. The use of gaseous substances, in preparing for further use rooms or wards previously occupied by contagious cases, has the advantage of being convincing to persons who are around that something strenuous is being done. It is doubtful whether there is any necessity for this procedure. Health departments of cities of the first class in the United States have practically abandoned the use of sulphur and formaldehyd for this purpose. One superintendent of a general hospital has repeatedly removed cases of scarlet fever from adult wards, and after disinfecting bed clothing and mattresses by the use of steam, and cleansing the bed with soap and water, has proceeded with the work of the ward as if nothing unusual had occurred, and no secondary case has been seen. To be sure, in rural communities it is rather expected that fumigation will follow the removal of a contagious case. Whether the lay belief in the efficiency of this act justifies its use is doubtful. Soap, water, and sunshine, with the admixture of considerable muscular effort, appear entirely adequate to render safe an infected ward or room, once the source of this infection has been removed.—*Modern Hospital.*

Pay Clinics.—A pay clinic is an out-patient clinic which charges the patient cost of service, and which remunerates the physician for his clinic work. That is to say, the fee paid by the patient includes a reasonable remuneration for the physician. The old-fashioned out-patient clinic was entirely free to the patient. At the present time, most out-patient clinics, with the exception usually of those supported by public taxation, charge patients admission fees. These fees vary from ten cents up to a dollar or more. A pay clinic, however, in the proper sense of the word, is not merely a clinic charging fees, but a clinic aiming to serve persons of moderate means who do not want charity, but who cannot afford the cost of good medical service at the usual private rates. The best known pay clinic is the Cornell Clinic, New York, under the auspices of Cornell University Medical College. This is not connected with a hospital although it has hospital affiliations.

Should doctors who work in the pay clinics be compensated? Certainly they should. When an institution conducts a hospital ward or an out-patient clinic without charging the patients anything, or charging only a fee which, at most, will not cover anything but administrative or housekeeping costs, and when the physician received professional advantage and prestige from the service, it is perhaps reasonable to ask him to give his time without remuneration. Even in the case of ordi-

nary out-patient service, as well as of ward service in the hospital, the question is now often raised whether physicians should not receive some pay, and in not a few out-patient clinics physicians are paid something for their services. When the clinic is charging a fee which is aimed to cover the cost of the service, and offers this service to people of moderate circumstances who wish to pay costs, but cannot meet the price of private rates, the purpose of the clinic is violated unless the physician is paid a fair remuneration for the time given. A fee should be charged patients which is sufficient to cover the cost of the service. Usually this cost is taken to mean the full expense of carrying on the clinic without including interest on the capital investment. In practice, the Cornell Clinic charges $1.50 a visit, with supplementary fees for medicine, laboratory tests (except some routine tests which are included in the admission fee), x-rays, and appliances. It is generally more convenient to administer a flat-rate admission fee than to have the fee vary in the different specialties, even though the cost of service is quite different in these departments. In clinics maintained in various specialties, varying rates are charged, depending on the nature of the work. Sometimes, the fee for the first visit is made higher than those for succeeding visits.

Generally speaking, the physician should receive a flat salary per month to cover a certain number of clinic sessions, or a session rate at so much per clinic session, although a few pay clinics have a scheme of taking the total income after the administrative expenses have been deducted, and dividing the rest among the medical staff or letting them divide it themselves. Session rates paid vary from $5, $7, and $7.50 up to $10, for two and two and one-half hours. Where monthly salary is paid, this is a matter of adjustment, bearing in mind the salaries paid in the same community to physicians of good standing in industrial or other dignified professional service. The patient of moderate means comes to the hospital clinic for the same reason that he seeks a semiprivate room or other moderate-priced accommodation in a hospital.

How shall we prevent abuse of the pay clinic by those who can really afford private rates? An admission system run by an intelligent and well-trained person will wipe out ninety per cent of the "abuse." Many persons of moderate means do not get satisfactory service from the outside practitioner because, although they start treatment with a private doctor, they cannot afford to carry it through to completion. Fifty per cent of the patients coming to the general medical department of the Cornell Clinic during the first year of its existence gave a history of unsatisfactory medical service. If there are no pay clinics in the evening, what can a workman do who cannot afford to pay private rates except lose time or else do without the service he needs? This question has sometimes been put to employers as a means of getting them to contribute toward an underwriting fund to start a pay clinic.

As a matter of practical experience, pay clinics have been started according to one of two procedures: first, by starting a pay clinic in a number of branches of medicine and surgery at separate hours from the usual clinics; second, it has sometimes been found better to start pay clinics in one or two specialties, where the need is felt to be greatest, and where the cost of private service is particularly high. These pay clinics may be held at the same time as the others, or at special hours, depending on the space and the doctors available.

A pay clinic will finance itself. If it is found, after an experimental period, that the original fees charged are not high enough to cover the cost, the fees should be adjusted upward. Sometimes it is necessary to secure an underwriting fund to cover the deficit during the initial period of the clinic's operation.

Don't advertise a pay clinic, but announce it in a dignified and simple fashion, stating the services offered, the hours the clinics are open, and the rates charged. Send the announcement to the chief organizations of the community that might be interested, and to the newspapers. Get it started and one patient will tell another of it. It is usually found that there are a good many patients coming to the out-patient department of a hospital, or discharged from the wards or semiprivate services, who are appropriate cases for the pay clinics.—*Modern Hospital.*

The Hospital Standardization Movement of the American College of Surgeons, is now in its tenth year. From 89 hospitals meeting the requirements, or 12.9 per cent, in 1918, there are 1,803 hospitals, or 69.9 per cent, in 1927. This is due to the fact that the people of the United States, Canada, and other countries where this movement is carried on, have been convinced of its worth both from the humanitarian and economic aspects. Every community must accept the responsibility of providing adequate care for the sick and injured. The only way possible to do this in a proper manner is through the acceptance and carrying out the principles of hospital standardization. The United States Naval Hospital, and the Veterans' Hospital, Philadelphia, the Veterans' Hospital, Aspinwall, and the United States Marine Hospital No. 15, Pittsburgh, have been fully approved.

INDUSTRIAL MEDICINE

What is Being Done in Pennsylvania to Protect the Health of Persons Distributing Ethyl Gasoline.—So far as our present knowledge of the subject goes, the mixing of ethyl gasoline is conducted in a safe manner in this State. Outside of the manufacture of tetra-ethyl lead and the production of ethyl fluid (operations which are not performed in Pennsylvania), it is in the mixing process that the greatest dangers to the workmen may arise, either from carelessness or ignorance in the handling of the ethyl fluid or from accidental spilling of this material on the persons or clothing of the workers. The men who do this work are fully instructed as to the dangers connected with the handling of the material, and also as to the precautions to be observed for safeguarding their health while doing the mixing.

When ethyl gasoline began to be distributed rather widely in Pennsylvania early last summer, it was usually found that pumps delivering this fuel carried a sign calling attention to the fact that it was ethyl gasoline and that certain precautions should be taken in handling it. The station also had, for distribution to customers, leaflets calling attention to these same precautions. Although the station attendants were passing to the public these leaflets which, if read and understood, would have adequately informed them on the subject, a number of them showed a decided lack of knowledge concerning the material they were handling.

The Ethyl Gasoline Corporation is conducting its investigations of the problem by examining a large number of men who have been exposed to skin contact and inhalation of the fumes of ethyl gasoline over as long a period as possible. These conditions have led the Department of Labor and Industry to see that every

effort is made to have ethyl gasoline handled in a most careful manner. To insure that proper precautions are observed, the matter has been taken up with all companies mixing ethyl gasoline in Pennsylvania. These companies have adopted methods of instructing their employees and distributors with special reference to certain points, among which are the avoidance of spills by which persons in the neighborhood would be subjected to the inhalation of the fumes; the prompt washing of any portion of the body on which the gasoline has accidentally been spilled; and the prohibition of its use in the cleaning of tools, machinery, clothing, etc. They are also warned against its use in lamps, stoves, or in fact for any purpose whatever except as a motor fuel. So that ethyl gasoline may always be quickly recognized, it is uniformly colored with a red dye. As no other common motor fuel has this color, there should never be any difficulty in recognizing ethyl gasoline at a glance.

To assist in the study of this subject it is desirable that any cases of illness believed to be caused by ethyl gasoline be reported to this Department as promptly as possible in order that they may be properly investigated. —*Labor and Industry.*

Public Health Bulletin, No. 162.—This number is devoted to a health study of ten thousand male industrial workers and two thousand female workers. In the summary is noted the following:

GARMENT. The industry which stands out most clearly is the garment. The workers in the garment industry had a very low percentage with good nutrition and good appearance, and were poorer in general physique than workers in other industries. Part of the difference may have been due to a more severe examination in this industry, but certain measurements indicate a real difference. In blood pressure, the garment industry was about the only one showing a clear-cut difference. Systolic blood pressure was low, diastolic pressure high, and, accordingly, pulse pressure low. All digestive disturbances and constipation appeared high; flat foot and respiratory diseases (especially tuberculosis, bronchitis, and emphysema) had rates sufficiently high to be worthy of note. The rate due to the digestive conditions seems especially important because the increase in this condition seems to have a definite relation to length of service. In the study of occupational groups within the industry proper, the pressers showed higher rates in both marked and slight arteriosclerosis and varicose veins than the other occupational groups.

POST OFFICE. Poor vision was recorded. This industry was of interest in the survey, because a definitely lower percentage of persons with normal vision in both eyes was found, together with a higher percentage of persons 20/50 or worse in the better eye. The post office and garment, of course, were the two industries in which the eyes were subjected to a severe strain.

CHEMICAL. It has been shown that this industry was made up of workers with very short lengths of service, so that no conclusions of great weight with respect to industrial hazard could be expected except for a few conditions which might respond quickly. The only conditions which stood out in this industry wére heart defects, which show an increase with length of service. Of the rates in the industry as a whole, the rate for flat feet without symptoms was 45 per cent. (the highest rate in any industry), and hernia gave a rate of 32 per cent, which was also the highest in any industry. However, neither of these rates increases with length of service, nor did the study of occupational groups within the industry show that they were inherent in any one occupational group.

FOUNDRY. No facts of great importance stand out with respect to this industry, on the basis of the physiologic measurements.

GLASS. The data on blood pressure suggested that there might be a significantly lower systolic blood pressure in this industry than in the industries as a whole, but the point could not be ascertained definitely. An interesting industrial disease here was brass-founder's ague among brass foundrymen. In the glass industry the rates for impaired hearing and constipation were unusually high, and there was an increase with length of service for all digestive disorders and for nose and throat affections. In the occupational study the dust group stands out most markedly from the others. In this group the rates for inflamed eyes, for chronic conditions of the nose and throat, and for diseases of the skin are well above the rates for the other occupational groups, while among the glass blowers the rate for defective teeth is particularly noticeable. Among the heat group the rate for enlarged tonsils is well above the other occupational groups. Eleven cases of cataract were observed in the glass industry, six of these among blowers. But of the five cases occurring among workers who were not blowers, one was in a person who had formerly been a blower and two were traumatic cataract.

STEEL. The only point of interest which was determined with respect to this industry in connection with the physiologic measurements was that there was possibly a low percentage of good vision in both eyes. The chance factor could not be entirely ruled out.

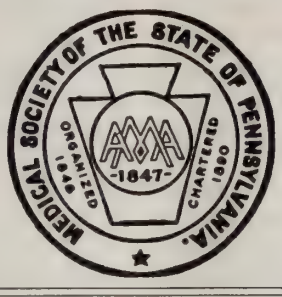
POTTERY. Since this survey was made to determine the prevalence of lead poisoning, no adequate record of other diseases and defects was obtained. The rate for constipation and other digestive disorders, however, was markedly high, and this apparently was due to a large extent to the lead poisoning found in the group examined.

CIGAR. Very high rates for certain conditions were recorded. For instance, 54 per cent of the workers were recorded as suffering from constipation, and 49 per cent as suffering from other digestive disorders. These percentages, of course, are very much higher than in any other industry, but the possibility must not be overlooked that the attention of the examiner was called to these conditions because of the nature of the industry. High rates were recorded for respiratory conditions. In this industry, cases suspected of being tuberculous were included with outright cases, and therefore the rate for this disease, which was 12 per cent, or very much higher than that in any other industry, is not exactly comparable. It did appear, however, that this disease was unusually prevalent. Bronchitis gave a rate of 23 per cent, whereas no other industry had a rate higher than 8 per cent, and the average was much lower than that. Irregular heart, marked arteriosclerosis, and enlarged and diseased tonsils also had high rates in this industry.

GAS. The rate for irregular heart was 5 per cent in this industry. High rates were also found for enlarged heart, marked and slight arteriosclerosis, and certain other conditions.

CEMENT. The only condition noted in the survey of the cement industry with an unusually high rate was that of impaired hearing. Fifty-six per cent of the workers were recorded as having this defect, and to a large extent this was the result of impacted ear wax.

THE MEDICAL SOCIETY

OF THE STATE  OF PENNSYLVANIA

Officers' Department

A. C. MORGAN, M.D., Sc.D., F.A.C.P.
President
2018 Chestnut Street,
Philadelphia, Pa.

COMMITTEES AND COMMISSIONS

Special attention of all our members is invited to the list of members of committees and commissions as recorded on pages 6 and 8 of the November ATLANTIC MEDICAL JOURNAL.

It is not too much to ask that each group shall attend to their respective duties in other than routine manner. Rubber-stamp work is never attractive.

The work of a commission usually has regard to constructive investigation and study from all angles, especially dealing with such facts as may be ascertained during the course of the work assigned to them. The field covered by a commission is wide, and as a rule their authority to make investigation covers a wide latitude, through sanction of the appointing power, so that by the time their findings are submitted, the next meeting of the legislative body that receives the report will have information at first hand.

On the other hand, the work of a committee covers a much more limited field, its duties usually being incorporated in the resolution that provides for its creation.

Standing committees of the State Society should recognize their duty to be on the alert so as to secure information germane to the purpose of their existence, and they in turn, at the next meeting of the legislative body, can submit a comprehensive report covering the special points in the work assigned to them, but being privileged to present a supplemental report with recommendations and suggestions as a result of their study of the subject made during the year.

The State Society functions smoothly and well because of the splendid activities of the commissions and committees that work between the annual sessions. The printed reports submitted by these bodies usually appears in the August and September issues of the ATLANTIC MEDICAL JOURNAL, so that reference to previous reports can readily be made, if so desired. However, commissions and committees should plan for original modes of procedure, and not feel bound by any stereotyped or routine course to guide them.

The State Society is particularly fortunate in having secured Dr. O. H. Perry Pepper as chairman of the Committee on Scientific Work. This important committee will meet for organization at Harrisburg, at an early date. At that meeting, the chairman and secretaries of the scientific sections should be prepared to present a general outline as to their programs for the Allentown session.

By parliamentary custom, the president is a member ex-officio of all committees and commissions; therefore, the services of this office are gladly tendered to each and all of the several functioning bodies during the present year.

HOMES FOR COUNTY SOCIETIES

The October number of the *Lycoming County Medical Bulletin* is a "Permanent Home Number." From its pages we learn that York County is making plans; Montgomery has a fund of $5,000 for the project; Fayette is housed in fairly comfortable quarters at Uniontown Hospital; Lancaster will meet in the "Home of Lancaster Medical Club," recently purchased for $11,000, and alterations are now under way; Berks paid $20,000 for their home ten years ago, and it is now valued in excess of $40,000; Luzerne, with a building completed about 1913 and now clear of debt, estimates its present value at $40,000. Their library, under guidance and care of Dr. L. H. Taylor, is already of good proportions.

Dauphin has outgrown her present quarters, valued at $25,000, and has a committee on the

lookout for a more suitable location. Philadelphia purchased a home in 1925 at a cost of $125,000, alterations $63,000, but recent real-estate appraisement by two different viewers placed it at $240,000. Allegheny County has a Committee on Permanent Home, and has accumulated a growing sum of money. Lehigh County is also active in this respect, has a committee at work and we feel sure that its project will receive quite a boost after the next annual session. Lackawanna County has under active consideration the proposition of a medical-arts building for the medical society.

We shall be pleased to hear of the activities of any other county society in respect to this laudable enterprise. In these days of financial prosperity it is well for all to put forth constructive work that shall result in permanent improvements, so that if lean days should come, the pinch of money stringency would not be so keenly felt. In addition, the sense of pride that comes from ownership of a home brings out the best side of any men or group of men who may be so fortunately situated.

We congratulate these many societies upon their splendid activities, and wish them great success.

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade Building
Pittsburgh, Pa.

MEETINGS OF THE BOARD OF TRUSTEES

The Board of Trustees of the Medical Society of the State of Pennsylvania met at the Hotel Schenley, October 3, 1927, at 10 a.m., with sixteen members and ex-officio members present. After consideration of the reports of the secretary and treasurer, the Board considered the reports from the editor and the business manager of the JOURNAL; also the report of the Finance Committee of the Board, approving its action in the purchase of bonds as follows: for the Medical Benevolence Fund $6,000; for the Medical Defense Fund and Endowment Fund each $1,500. The report of the Executive Committee of the Board regarding the management of the Society's property in Harrisburg was favorably received. The Publication Committee was instructed to continue endeavors to interest the Medical Society of the State of Maryland in the advantages of accepting the ATLANTIC MEDICAL JOURNAL as its official publication, JOURNAL ownership to continue, as at present, vested only in the Medical Society of the State of Pennsylvania, with control in the hands of its Publication Committee.

Secretary Donaldson reported that the State Society had expended about $200 in aiding in the arrangement and the conduct of the various councilor district meetings in 1927.

A motion was adopted providing for an audit by certified public accountants of the various accounts of the Society.

The Board met at the Hotel Schenley, October 6th, at 10 a.m., with twelve members and ex-officio members present.

The Board instructed Treasurer Lowman to deposit the proceeds of $10,000 of Second Liberty Loan Bonds for reinvestment by the Finance Committee of the Board of Trustees as follows: Medical Defense Fund $5,500; Medical Benevolence Fund $3,500; Endowment Fund $1,000.

The Board reorganized for the coming year by reëlecting Dr. Sharpless, chairman; Dr. Brenholtz, clerk; and Mr. Bernard J. Myers, of Lancaster, counselor for the Society.

Secretary Donaldson was instructed to prepare a brief for presentation to the Commission of the Commonwealth of Pennsylvania to Study the Laws Relating to the Healing Art, containing the points of argument of the regular, or so-called allopathic, school of medicine, same to be submitted to the Board of Trustees at a special meeting to be held in the near future at the call of the chairman.

The Board, as instructed by the House of Delegates, arranged for the following appropriations: to the Cancer Commission, $500; to the Committee on Lay Education, $1,000.

The Board, after considerable discussion, decided that it would be inadvisable to take immediate action to meet the instruction from the House of Delegates authorizing the Board of Trustees to add one dollar or more to the annual per-capita tax to meet the expenses of the annual session, and postponed action until the regular December meeting of the Board.

Secretary Donaldson was instructed to spread on the minutes a letter received from Ex-President Adolph Koenig, regretting his inability to accept the invitation of the Board to attend a luncheon at the University Club in honor of President Jabez N. Jackson of the American Medical Association.

After considerable discussion and the adoption of amendments, the 1928 budget as recommended by the Finance Committee was adopted.

The Secretary was instructed, in accepting the contribution of $100 from the Woman's Auxiliary of the Medical Society of the State of Pennsylvania to the Benevolence Fund, to convey

to the Auxiliary the endorsement of the Board of Trustees of the efforts of the Auxiliary in behalf of the Society's Medical Benevolence Fund.

Chairman Sharpless announced the appointment of the following standing committees:

Finance Committee: Drs. Guthrie, Brenholtz, and Bishop.

Publication Committee: Drs. Hammond, Wyant, and Litchfield.

Executive Committee: Drs. Mitchell, Hartman, and Crow.

Benevolence Committee: Drs. Frontz, Wyant, Heckel, and Donaldson.

A special meeting of the Board of Trustees for the purpose of considering the brief to be presented before the Freeman Commission was called to order by the chairman, at 230 State Street, Harrisburg, October 26th, at 9.30 a.m. Thirteen members and ex-officio members and Counselor Bernard J. Myers were present. The brief, as prepared by Secretary Donaldson, was read and discussed paragraph by paragraph. The brief, with changes suggested by members present, was then adopted by the Board as the official argument of the regular, or so-called allopathic, school of medicine, addressed to the Commission of the Commonwealth of Pennsylvania to Study the Laws Relating to the Healing Art. The secretary was instructed to have the brief issued in the most attractive form possible and in a sufficient number of copies.

President Morgan was deputized to present officially the brief of the Society to the Commission at its hearing, November 16th, being instructed to give verbally a digest of the brief and to present to each member of the Commission an envelope containing a copy of the same, together with approved pamphlets on subjects relating to the regulation of the practice of the healing art.

DUES FOR 1928

The secretaries of the component societies have been provided with statement blanks to be issued, January 1st, to the members of the various county medical societies, reminding said members that their county medical society dues for 1928 are due January 1st. We trust that our more than 7,700 members for 1927 will respond promptly and coöperate fully with the officers of the various county societies in their endeavor to enroll their county society on the 1928 honor roll. Secretary Samuel G. Logan of the Elk County Medical Society had on November 15, 1927, collected and remitted to this office the 1928 State Society dues of all his 1927 members. The leadership of the 1928 honor roll is therefore decided at a record-breaking early date.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since October 17. Figures in the first column indicate county society numbers; second column, State Society numbers.

For 1927					
Oct.	19	Montgomery	156-158	7675-7677	$7.50
	20	Lycoming	112-114	7678-7680	7.50
		Luzerne	282-286	7681-7685	25.00
	26	Luzerne	287	7686	5.00
	28	Westmoreland	156	7687	5.00
		Allegheny	1292-1300	7688-7696	25.00
		Wyoming	11	7697	2.50
Nov.	5	Northumberland	66-67	7698-7699	10.00
		Fayette	126-127	7700-7701	10.00
		Bradford	37-38	7702-7703	10.00
	14	Delaware	114-115	7704-7705	5.00
		Philadelphia	2101-2111	7706-7716	47.50
For 1928					
Nov.	5	Elk	1-4	1-4	20.00
	14	Elk	5-18	5-18	70.00
		Beaver	1	19	5.00
	15	Elk	19-22	20-23	20.00
		Luzerne	1-4	24-27	20.00
	17	Franklin	1-3	28-30	15.00

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to November 21:

ALLEGHENY: *New Members*—John Chornyak, 515 Bessemer Ave., East Pittsburgh; Frederick C. Koenig, 213 North Ave., Millvale; W. F. Walter, 501 Penn Ave., Turtle Creek; Christ Christoliakos, Leech Farm, Harry M. Dougherty, 215 Shiloh St., Thomas W. Nale, Jr., East End Trust Bldg., Lloyd W. Pumphrey, Municipal Hospital, Harold R. Waring, Jenkins Arcade, Pittsburgh. *Reinstated Member*—John P. Kirsch, William Penn Hotel, Miami Beach, Fla. *Removal*—Wm. R. Marshall from 131 First St., Aspinwall, to 544 Sherbrooke St. W., Montreal, Canada. *Deaths*—Gaetano Conti, Pittsburgh (Univ. of Naples '94), Oct. 25, aged 59; John H. Seipel, Pittsburgh (Univ. of Pgh. '12), Oct. 25, aged 38.

ARMSTRONG: *Removal*—Thomas H. Newcome from Seaford, Del., to Chickasaw, Penna.

BEAVER: *New Member*—John C. McCauley, Rochester.

BRADFORD: *New Members*—Thomas H. Meikle, 114 W. Main St., Troy; John M. Touhey, 206 Main St., Towanda.

CLARION: *Removal*—Harry C. Blair from Iselin to Crabtree (Westmoreland Co.).

CLEARFIELD: *Removal*—J. McClure Tyson from Philadelphia to Deposit National Bank Bldg., Dubois, *Death*—Luther W. Quinn, Dubois (Univ. of Pgh. '96), Sept. 23, aged 57.

DAUPHIN: *Removal*—Frank D. Kilgore from Harrisburg to 1029 S. 60th St., Philadelphia.

DELAWARE: *New Members*—Pum Koo Park, 311 W. 9th St., Chester; Edward Ozellers, 511 Long Lane, Upper Darby.

FAYETTE: *New Members*—Wm. E. Trezise, Bank Bldg., Fayette City; A. S. Freedman, Fayette Title & Trust Bldg., Uniontown.

FRANKLIN: *New Members*—Wm. C. Schultz, Jr., Walter H. Wishard, Waynesboro; Henry G. Chritzman, Greencastle.

JEFFERSON: *Removal*—Harry C. Fulton from Dubois to 3242 N. 17th St., Philadelphia.

LAWRENCE: *Removal*—Benjamin M. Berger from New Castle to 718 N. First St., Phoenix, Ariz.

LACKAWANNA: *Death*—John C. Wahl, Scranton (Univ. of Penna. '12), Oct. 11, aged 39.

LUZERNE: *New Members*—J. S. Long, 33 S. Washington St., Fred C. Tongue, 32 E. South St., Walter W. Kistler, 142 Hanover St., Leonard D. Marinaro, 123 So. Washington St., H. Ward Fisher, 87 Academy St., J. B. Purcell, 602 N. Main St., Wilkes-Barre; Isaac Humphrey, 120 Park St., J. G. Beckley, 174 E. Green St., Nanticoke; Frederick W. Roberts, 570 E. Main St., Plymouth. *Reinstated Member*—William S. Helman, Box 11, Avoca.

LYCOMING: *New Members*—Robert C. Bastian, 11 W. Fourth St., George S. Klump, Medical Arts Bldg., Harold L. Tonkin, 221 East Third St., Williamsport.

MERCER: *Removal*—Robert E. Mehler from Sharon to 519 Idaho St., Farrell. *Transfer*—James Ward, Greenville, from Armstrong County Society.

MONTGOMERY: *New Members*—Maurice H. Genkins, Donald M. Headings, Norristown; Frederick B. Mandeville, Haverford.

NORTHAMPTON: *Removal*—Julius Wollitzer from Bethlehem, to 409 Broall St., Johnstown (Cambria Co.). *Death*—E. William Evans, Easton (Univ. of Penna. '84), recently.

NORTHUMBERLAND: *New Members*—Frederick O. Zillessen, 9 Packer St., Mark K. Gass, 910 Market St., Sunbury. *Removal*—Russell J. Hangen from Sunbury to 59 N. Main St., Ashley.

PHILADELPHIA: *New Members*—Leopold Goldstein, 1717 Pine St., Harry Goodman, 622 Johnston St., Wilbur W. Oaks, 1708 Wallace St., Joseph G. Ross, 5237 Spruce St., Alexander Uffe, 720 Oregon Ave., Philadelphia; M. A. J. Roseman, 1736 Welsh Road, Bustleton. *Reinstated Members*—Florence E. Ahlfeldt, 2039 N. 29th St., H. S. Bachman, 1134 W. Lehigh Ave., William H. Deardorff, 5049 Hazel Ave., Max R. Gabrio, 4948 Griscom St., Frankford, E. Quintard St. John, 1831 Chestnut St., Thomas Ellison, 2324 Bridge St., Z. M. Kempton Fulton, 1111 W. Lehigh Ave., Charles E. Price, 316 N. 52d St., Philadelphia; William H. Stoner, Director Medical Dept., E. R. Squibb & Sons, 80 Beekman St., New York, N. Y. *Removal*—Margaret H. Sutley from Philadelphia to 506 Kenwood Road, Drexel Park, Drexel Hill; C. Powers Clark to Chestertown, Md.; Edward V. Clark to Chestertown, Md.; Charles M. Glassmire to 20 Glencoe Road, Upper Darby (Del. Co.). *Deaths*—Adam Klemm, Philadelphia (Jeff. Med. Coll. '91), Sept. 25, aged 65; Sherman T. Moyer, Philadelphia (Univ. of Penna. '86), Oct. 9, aged 63.

SOMERSET: *Removal*—Benjamin H. Long from Gray to Jenners.

VENANGO: *Removal*—J. Moorhead Murdoch from Polk to School for Feeble-Minded, Faribault, Minn. *Death*—John M. Waid, Titusville (Univ. of Pgh. '88), June 3, aged 68.

WESTMORELAND: *New Member*—Rutherford H. Ferguson, 1215 Wood St., Wilkinsburg (Alleg. Co.). *Removal*—William J. Salisbury from Crabtree to Wilmerding.

WASHINGTON: *Death*—Thomas D. M. Wilson, Washington (Jeff. Med. Coll. '75), Sept. 26, aged 75.

WYOMING: *New Member*—Albert G. deQuevedo, State St., Nicholson.

COMMISSION ON COMPENSATION LAWS

LEVER F. STEWART, *Chairman*
Clearfield, Pa.

CHARGES TO WARD PATIENTS BY STAFF PHYSICIANS

A survey of hospitals in the State of Pennsylvania covering the question of charges by staff physicians to ward patients has brought out a distinction that exists in some hospitals outside the city of Philadelphia. It is our understanding that every Philadelphia hospital prohibits any charge whatsoever by staff surgeons for care of ward cases. It is our understanding that a few isolated hospitals throughout the State follow this same rule. We have learned that most hospitals maintain this ruling so far as charity or part-pay patients are concerned, but approve of staff surgeons making a charge for service to patients paying the full ward rate and to those falling within the scope of operation of Pennsylvania's Compensation Law. An accurate tabulation of the rulings of all Pennsylvania hospitals would provide interesting and helpful information to those interested in improving this condition. It is requested that each physician seeing this column please make it his business to see that the questions printed below are answered according to the ruling of his own particular hospital or hospitals, and forwarded to Dr. Lever F. Stewart, Chairman of the State Society Compensation Commission, Clearfield, Pa.

1. Name of hospital?
2. Does your hospital permit its staff physicians to make a charge for personal service to ward patients who pay the full ward charges of hospital?
3. Does your hospital permit or approve staff physicians charging for personal service in compensation cases admitted to the wards?

County Society Reports

BLAIR—OCTOBER

About 150 physicians from Blair and surrounding counties attended a clinic held at the Mercy Hospital, Altoona, on October 25th. The program was as follows:

Dr. W. H. Howell: Carcinoma of the Breast.—If carcinoma is found in both breasts, it is also in the mediastinum, and the chances for a cure are poor. No operation for advanced carcinoma of the breast should be undertaken until the bones have been x-rayed, as metastasis to the bones from carcinoma of the breast frequently occurs. What percentage of cures can be expected from operation? At the Mayo Clinic a table was prepared from 1,628 cases, dividing the cancerous growths into four classes: (1) 75 per cent of the cells in the growth close to normal; (2) cells about equally divided; (3) 75 per cent of cells indefinable; (4) no cells near normal. Of the first group, about 92 per cent showed good results following operation; of the second, about 62 per cent; of the third, 25 per cent; and of the fourth, only about 10 per cent. The primary steps necessary for a cure are early diagnosis, early surgery, and x-ray and radium combined with surgery. X-ray and radium alone should be used for hopeless cases only.

Dr. H. C. Thomas: Goiter.—The medical treatment of goiter is on the increase, the best results occurring in children. In order to study this subject, a simple classification must be made, dividing all goiters into four

main classes: colloid and simple goiter; adenoma; exophthalmic goiter and Graves' disease; and other conditions. Toxic adenoma and exophthalmic goiter are rare in children under twelve years of age. In treating simple goiter in children, it is always well to eliminate foci of infection, such as bad teeth, tonsils and adenoids. Some form of iodin should be given, but only under observation by a physician. A hyperthyroid condition may be produced by iodin. Unless the metabolic rate shows an increase of more than 20 per cent, it is better to treat a case of simple goiter medically in children and young adults under twenty-one years of age.

Dr. John H. Galbraith: Early Treatment of Infantile Paralysis from an Orthopedic Viewpoint.—In treating infantile paralysis from an orthopedic viewpoint, it must be remembered that we are dealing with an end result; viz., paralyzed muscles. Orthopedic treatment must not be started until the disease has run its course and the last bit of soreness is gone from the muscles. Do not overdo the treatment. Long rest is the first essential and may be accompanied with a rolling massage of five or ten minutes' duration, twice a day. Alternate hot and cold spray is of use in increasing the muscle tone. The foot and leg should be kept in a right-angled splint to prevent contractures. Improvement may be expected during a period of two years.

Dr. H. H. Dight: Ocular-Muscle Imbalance.—There are two sets of ocular muscles, extrinsic and intrinsic. The extrinsic are under control of the will, and a baby must learn orientation. Muscular imbalance is due to a deviation of the visual axis resulting from over-innervation of certain muscles, and should be corrected early, or double vision will result. The treatment consists of exercises and prismatic lenses.

Dr. C. E. Snyder: The Treatment of Pelvic Infections.—The vital questions in pelvic conditions is when and when not to operate, and how much surgery should be done. If the patient is a woman who must earn her living, it is usually better to operate early to avoid loss of time. On the other hand, if the patient is in easy circumstances, it is usually better to treat by rest, even as long as one year It is never wise to operate during an acute attack. Rest with the head of the bed elevated, ice cap over pelvis until inflammation has subsided (at least two weeks), blood Wassermann, vaginal examination, and blood examination should be routine in every case. Operations for salpingitis are on the decrease. The greater the amount of time allowed for convalescence the better will be the result of operation. Operations for pelvic infection are often very unsatisfactory.

Dr. D. G. Burket: The Tannic-Acid Treatment of Burns.—There is a higher mortality from burns than from pelvic infection with peritonitis, and yet they are often left to the care of the intern. Toxemia is due to the action of heat upon living tissue. If blood from a toxic burn patient is injected into a healthy individual, it produces symptoms of toxemia. If the burned area is excised within a period of four hours, no toxic symptoms will develop. If the blood vessels from the burned area are constricted, the absorption of toxins will be greatly lessened. A burn case should first be treated for shock, giving morphin and forcing fluids. Blood transfusion is advisable in severe cases. The local treatment by the tannic-acid method consists in early excision of the burned area, then covering with sterile gauze and bandage. Next, the dressing is saturated with a two-and-one-half-per-cent tannic-acid solution. Dressings are allowed to remain on until they assume a yellowish-brown color. Tannic acid acts as an analgesic and local astringent. No morphin is required, and when bandages are removed, the surface will be found dry and painless. Further treatment consists in exposing the burned area to the air.

Dr. Miller: An Interesting Intracranial Lesion.—The patient was a man of middle age giving a history of momentary loss of speech and tremor of the right arm. This group of symptoms occurred at intervals. On admission to the hospital the patient showed no neurologic symptoms except slight choking of the left disk. No history of lues was obtained, and the blood Wassermann was negative. It was then necessary to determine absolutely whether the condition was a brain tumor or of luetic origin. A spinal puncture was taken, and the spinal fluid was found to be plus-four. This settled the diagnosis, and it shows the value of spinal punctures in doubtful cases.

Dr. Henry W. Salus, of Johnstown, gave an inspiring talk on the menace of the cults to the regular practitioner and the public in general.

Following the meeting, dinner was served at the hospital.

R. V. SILKNETTER, M.D., *Reporter.*

LUZERNE—OCTOBER-NOVEMBER

A regular meeting was held in the Medical Building, October 19th, with President G. R. Drake in the chair. The committee on postgraduate study reported that the Graduate School of Medicine of the University of Pennsylvania has advised that extension courses of graduate instruction in Wilkes-Barre cannot be given under their auspices at this time or at any definite time in the future. It is understood that application from Wilkes-Barre physicians for this work has been on file in Philadelphia for three years. The Committee has been instructed to make an effort to arrange personal courses in certain subjects with teachers from other centers.

The essayist was Dr. Ethan Flagg Butler of the Robert Packer Hospital, Sayre, speaking on "Nontuberculous Bronchopulmonary Suppurations."

Dr. Butler: Next to pulmonary tuberculosis the nontuberculous pulmonary suppurations are the most insidious and widespread of respiratory diseases. The paths of infection are twofold: the air passages, through which foreign bodies or infected secretions may enter, and the blood stream, which may admit infected emboli from all parts of the body. The decreases in amplitude of respiratory excursion may favor the occurrence of lung suppuration.

Diseases of this class may result from chronic nasal and sinus diseases, aspiration of infectious pharyngeal secretions (including spirochetosis due to Vincent's organisms), true pneumonias, septic pneumonias secondary to remote foci of infection, pulmonary embolism or infarct, bronchopulmonary neoplasms, and other conditions. Suppurations may be bronchiectatic or parenchymatous. There may be single or multiple abscess cavities.

The diagnosis depends largely upon the history, to a very small extent upon physical examination, and chiefly upon the x-ray findings. The great majority of chronic nontuberculous lung suppurations will involve the lower lobes in contradistinction to the typical upper-lobe involvement of tuberculosis. The physical signs are most variable, and inasmuch as the gross and microscopic pathology show wide variations, it is impossible to give any set of physical signs as characteristic of lung suppuration. Sputum examination is important,

and should include requests for definite information as to: (1) the presence of tubercle bacilli; (2) the presence of spirochetes and fusiform bacilli of Vincent; (3) a statement of the predominating organism.

The treatment should be expectant in the acute phase, with an effort to keep the air passages free of secretion by postural drainage. Approximately 40 per cent of acute cases will recover spontaneously. Bronchoscopic aspiration of infected secretions will help an appreciable percentage of cases to escape surgery. About 30 per cent of acute cases will require surgical help. To effect a cure in pulmonary suppuration the surgery must be radical. Definite palliation with a low-grade nondisabling chronicity can be secured by less drastic surgical measures.

Dr. Armstrong: There is no doubt that these abscesses come by aspiration, but there is some doubt of their origin from emboli. Moore of Philadelphia has collected 200 cases following tonsillectomy, and not all these were done under a general anesthetic; some were done under local anesthesia, so that they may have come from emboli.

Dr. Butler did not mention foreign bodies. We had a patient at White Haven fifteen years ago who came from Sayre. The man was supposed to have miliary tuberculosis, was very ill, and was brought to us on a stretcher. He had copious expectoration. Later, we located a peripheral abscess in the lower lobe. The abscess was opened, and he made a perfect recovery from fever and delirium, but the cough persisted. A week or so later he coughed up a tooth. The man is well today.

It is a mistake to carry on bronchoscopic washings indefinitely in chronic cases. We had a young man who had an abscess that was opened in Connecticut. He had hemoptysis. He went to Jefferson Hospital for washings, and after each one he had a hemorrhage. Finally he had a bad one, and we advised a thoracoplasty. He had no tuberculosis, and did have a good contralateral lung. They continued to treat him with washings, and in a few months he had a fatal hemorrhage.

Dr. W. J. Davis: It is the general practitioner who sees the patient first. It is a question in many cases whether we are early enough in our diagnosis and whether we are quick to see a complication other than ordinary unresolved pneumonia. Some of these chronic bronchiectases may be due to foreign bodies. I had the privilege of picking up such a case about a year ago. This patient was a lad who had inhaled a tack some years before, and later developed a chronic cough. I had an x-ray picture taken, and this showed the tack. It was removed at the hospital and it is surprising the improvement this boy made in a short time. Especially in children, when there is persistent cough and no signs of tuberculosis, foreign body and bronchiectasis should be suspected.

Dr. Butler mentioned postural drainage. I had this brought to my attention in the army. We had a man on the tuberculosis board who had been a "lunger." I noticed that as soon as he came in after his morning's tour of duty he would take a pillow from the bed, would lie down, and empty his lung. It is surprising the amount of purulent material he would get out in a short while. We can use postural drainage in purulent cases. I believe that if we were to use that treatment, we would sometimes relieve some of these small abscesses and they would cure themselves.

Speaking of autogenous vaccine, according to the literature many cases of these small abscesses have been relieved after three or four injections. All that Dr. Jackson claims for the bronchoscope is that you open up and make a way for the pus to drain itself. There is no question that iodized oil, introduced through the bronchoscope, can be of use. There are a number of little things that all medical men can use: position, fresh air, helping the patient get rid of pus, etc., but ultimately when it comes to large abscesses, that is up to the surgeon.

Dr. Butler, in closing: Bronchiectasis is a sad story. Collapsed lung through thoracoplasty, bronchoscopy, lobectomy, pneumectomy—all these things have been employed in the care of bronchiectasis. It is one of those things that come to the surgeon well established as a chronic happening. I am still trying to work out in my own mind what is the most humane thing to tell these people. Thoracoplasty plays a rôle in any obliterating operation, coming as a preliminary step to lobectomy and pneumectomy because the dead space is made less. It makes more operative steps for the patients, but gives them more chance to talk about it afterwards.

It is interesting to note that where the best work has been done there has been the most closely developed teamwork between the roentgenologist, bronchoscopist, internist, and surgeon. As to vaccine therapy, the ultimate care of these cases must include every supporting agent that can be brought to play—dietetics, artificial immunization, physiotherapy, climatic change, etc.

At the meeting of November 9th, with President G. R. Drake in the chair, resolutions in memory of the late Dr. William H. Corrigan were read. Drs. James B. Purcell, Donald D. Marinaro, H. Ward Fisher, and F. W. Roberts were elected to membership. Applications of Dr. Olive T. Baskett and Dr. Geo. T. Baskett, of Retreat, for transfer from their former county medical society in Minnesota were accepted. A committee was appointed to consider the desirability of forming a Woman's Auxiliary.

Dr. M. J. Murphy, Pittston: The Treatment of Toxemias of Pregnancy.—Toxins are supposed to be the result of abnormal general metabolism or morbid processes occurring in special organs. Hyperemesis gravidarum occurs early in pregnancy. Nausea and vomiting are normal to half of all pregnant women. It is difficult to tell when the vomiting passes from the normal to the pathologic.

Pernicious nausea and vomiting may be reflex, or may have a neurotic background. Suggestion forms a large part of the treatment. Most of the cures that we accomplish are due to it; e. g., the multitude of drugs, hypodermic medications, the dark room, isolation, electricity, quackery, gastric lavage, local treatments, dilation of the cervix, the false assertion that the uterus has been emptied, painful treatment, etc.

The treatment of vomiting of pregnancy which is truly toxemic consists of rest in bed, starvation for twenty-four hours, with sodium bromid, 60 grains in every six hours, giving 240 grains in every twenty-four hours for several days. After the first twenty-four hours, food is gradually added, giving especially carbohydrates. The dosage of bromid must not be decreased rapidly, and it should not be stopped too soon. The milder cases can be quite satisfactorily treated, although not with equally brilliant results, by a less vigorous régime. When the patient is suffering from nausea only, it is usually sufficient to give a high carbohydrate diet and bromids in 15-or 20-grain doses by mouth.

The prevention of eclampsia, in a general way, is equivalent to the conduct of the hygiene of pregnancy. We have in the routine examination of urine and the sphygmomanometer, valuable aids in early detection of toxemias. Albuminuria is the most important finding;

diminished daily output and decrease of total solids are next in importance. A rising blood pressure is a warning of danger, and the limit of safety may be placed at 150 mm.

Patients with threatened or frank eclampsia should have one-sixth grain of morphin immediately, followed by an intravenous injection of glucose (300 c.c. of a 10 per cent solution) and 15 units of insulin. The rectum is to be flushed with 5 per cent glucose in 1 per cent saline solution, and the patient to be given water freely when conscious, and to have oxygen after every convulsion, when available. One hour after admission and every six hours thereafter, she is to have 30 grains of sodium bromid with 100 c.c. of milk by mouth or by rectum. As soon as the head is in the pelvis, low forceps extraction under ether is to be practised.

Dr. P. E. Hertz: Hydrocephalus and Spina Bifida.—The cerebrospinal fluid is formed by the choroid plexuses, chiefly of the lateral ventricles of the brain, by a process of secretion or filtration. It passes into the third ventricle, thence into the fourth ventricle, whence it escapes into the subarachnoid space through the lateral foramina of Luschka and the central foramen of Magendie. It thus surrounds the brain and passes down from the cisterna magna to envelope the spinal cord. It is absorbed by the arachnoid villi, to enter the blood stream by way of the dural sinuses.

Theoretically, hydrocephalus can be caused by (1) too great production of fluid, (2) obstruction to flow of circulation, (3) failure in absorption. Practically, it is due to obstruction of the circulation, so that the fluid accumulates, producing distention and pressure. Obstruction may be caused by tumors, atresia, and adhesions. Dilation of the ventricles occurs, with atrophy and thinning of the brain substance, and the thinning is always at the expense of the white matter.

Spina bifida occurs when there is failure of fusion of the neural arch in the embryo. To distinguish between hydrocephalus due to obstruction within the ventricular system and hydrocephalus due to obstruction within the subarachnoid space after the fluid has escaped from the ventricles, Dandy advocated injecting into the lateral ventricle one c.c. of phenolsulphonephthalein. A lumbar puncture is done thirty minutes later. If the dye is obtained in the spinal fluid, the obstruction is outside the ventricular cavities.

In treatment, Marriot uses diuretin in ⅓ grain doses, and obtains good results in the subarachnoid type. Others ligate the internal carotid arteries in this type. In the ventricular type, operative treatment consists of making new foramina or dilating the natural passageways.

In spina bifida radical treatment should not be adopted if there is a complicating hydrocephalus present, if there is extensive paralysis, or if the sac is infected, as most of these patients will die within the first year under any circumstances. If such patients survive more than five years, operative treatment should be considered.

When the coverings are thin or membranous, the risk from delay is great. When a choice is possible, operation during the second and third months of life is to be preferred. The operation consists of excision of the sac, repairing the opening, as in radical cure for hernia, by using the healthy skin coverings and suturing the muscles and skin in separate layers.

Dr. Dobson: Prophylaxis is the most important thing in the treatment of the toxemias of pregnancy. The patient should be placed on a nonprotein diet. Many physicians give only milk and water, others give only vegetables and water. The physician should insist on the observation of strict hygienic rules of pregnancy, and should observe the condition of the patient regarding edema, pallor, rising blood-pressure, albuminuria, disturbances of vision, etc. Stroganoff has advocated the use of morphin and chloral. He avoids any operative treatment in the hope that the patient can be tided over until labor begins or the child becomes viable.

In my own experience, I have much faith in the nonprotein diet and the administration of nephritin in the tablet form. The tablets increase the output and reduce albumin in the urine. The edema lessens and the patient feels better. The use of insulin has been advocated in these cases when the patient is semiconscious or in coma. Some one in the *Journal of Obstetrics* two years ago reported the treatment of 142 cases of eclampsia with sulphate of magnesia intravenously, claiming that it stops convulsions, increases elimination, and allows the patient to go on to term or until other measures can be taken to empty the uterus.

Dr. Kocyan: In the pathology of spina bifida we now try to stand on a physical basis. We do not believe in the "wrath of God," but rather that there is some definite pathology. We note the frequency of deformities with syphilitic infections, with nephritic toxemias, and with various other toxemias. The fetus grows by budding, and it is really the failure of the fusion of two sides that produces the deformity. Sometimes perhaps there was a failure of oxygen when these buds were fused. At the same time there were various pathologic disturbances in the placenta, caused by hemorrhages in the placenta and these in turn by some infection in the placenta. The most frequent types of infection associated with these are acute infections of the head in the first few weeks of pregnancy. The chronic infections are those of the teeth, tonsils, etc.

The hope lies in prevention as early as possible, because the budding process takes place in the first few weeks of pregnancy; hence our prenatal work must start as early as we can get the patients.

Dr. Baker: The question often comes up if nutrition, or oxygenation, or something of that type accounts for hydrocephalus. How does it account for a pair of identical twins in which one had hydrocephalus and the other was a perfect child? If you explain these by a lack of oxygen, etc., how do you explain these twins?

Dr. Murphy, in closing: Operative procedures should be put off as long as possible. If medical treatment fails, then do the operative treatment which is least dangerous. In most cases of eclampsia, if medical treatment is applied long enough, the head will come down and forceps can be used.

Lewis T. Buckman, M.D., *Reporter.*

MERCER—OCTOBER

At the meeting, October 13th, the Society unanimously approved the bond issue for a tuberculosis hospital in Mercer County, to be voted on November 8th, and donated $50 for publicity purposes.

Dr. C. L. Hartsock, of the Cleveland Clinic, Cleveland, Ohio, read a paper on "Migraine in Connection with Certain Digestive Disturbances."

Dr. Hartsock stated that migraine in either a mild or severe form occurs with very great frequency. It may be so mild as to cause little disturbance, or severe enough to cause great suffering, besides being of marked economic importance to the patient by producing much loss of time and by attacks occurring inopportunely.

Although the subject of migraine has received a great deal of attention in the literature, there seems to be a general tendency on the part of all physicians to pay

very little attention to these patients partly because treatment is so universally unsatisfactory, and partly because of the knowledge that the disease is self-limited and the attacks harmless to the patient outside of the great suffering they cause. If one becomes interested in these patients and studies them carefully, a great deal can be done to help them, and the least that can be done is to give the patient an understanding of the nature of the disease so that he may avoid some of the useless operations to which many of these patients are subjected, especially those who have abdominal symptoms.

A typical attack of migraine is a very classical syndrome and almost unmistakable. It begins with a visual aura of flashing lights or partial blindness, or possibly a sensory aura of numbness and tingling in the arms or face. This is followed by a unilateral headache over one eye, which grows more intense until it is almost unbearable. The patient becomes nauseated and will vomit until bile is eructated; and shortly after, the attack begins to ease up. Attacks occur with varying frequency, and last from twelve to forty-eight hours. Patients may have only the visual or sensory aura without headaches and gastro-intestinal symptoms. These patients will usually consult an oculist, and generally will be told the true nature of the attacks of partial blindness or peculiar lights, as ophthalmologists have a very good understanding of the disease. The attacks may be limited to headache alone. About thirty per cent have gastro-intestinal symptoms with attacks, and some of these present most difficult problems to diagnose and treat.

Migraine occurs most frequently in brain workers, and is definitely hereditary, this being true in ninety per cent of the cases. Very largely, the heredity is in direct descent, but at times skips several generations or alternates with neurasthenia, psychosis, weak character, or epilepsy. Various abdominal disturbances play a part in migraine, but the abdominal symptoms often simulate real abdominal disease, and the differential diagnosis is very important. Often the severity of the abdominal symptoms overshadow the other symptoms, and make the problem most difficult.

There is no way of absolutely differentiating these cases from true abdominal disease, but if our improved methods of x-ray study of the gastro-intestinal system are negative, and there is a definite periodicity of attacks, coupled with occurrence after a nervous strain, and a definite neurotic tendency, this should certainly be considered and exploration discouraged.

At least fifty per cent of these patients with abdominal symptoms who consult us, including those with typical migraine attacks, have been operated upon or advised to submit to operation. Operations for appendectomy or for the gall bladder have relieved not over five per cent, the large number securing no relief whatever, and some even being made worse by operation. In every recurring type of abdominal trouble migraine must be considered, and the diagnosis can usually be made easily by its association with headache and other symptoms, although in some cases differential diagnosis is difficult.

From what I have said you would judge that I do not believe the appendix and gall bladder to be responsible for any attacks of migraine, and certainly my experience with the removal of these organs would merit this opinion. I have been guilty as often as others of advising their removal, but the lack of results has caused me to seek other explanations. I think that intestinal stasis, especially of the small intestines, plays a much more important rôle than stasis in the duodenum.

Treatment of migraine is based on reducing susceptibility of the patient and eliminating the irritating factors. With the irritating factors remaining the same, the frequency and severity of migraine varies considerably with the general nervous condition of the patient and the amount of work and rest. In many cases no other treatment than rest will give fifty per cent relief. As mentioned before, the large majority of these patients are brain workers who are daily overworking their mental functions and paying very little attention to physical conditions. Eyes should be carefully refracted, nose taken care of, and any abscessed or impacted teeth removed. Much discretion should be used in regard to the tonsils, and their effect on the general health must be considered. Any systemic disease should receive general treatment. Most care should be exercised in regard to performing operations on the abdomen and pelvis unless there is very good evidence that there is actual disease of the organs, and not because it is suspected that on account of the relation of the attacks to these regions they are imitating the attacks. Flat feet and postural strain should be relieved; duodenal stasis should be treated, and visceroptosis corrected. Diet is important, as some foods seem to cause migraine. Constipation should be corrected if present. Treatment with drugs consists chiefly of giving a nerve sedative in small amounts over a long period of time. Bromids and luminal are most commonly used. Pelvic operations are performed too frequently, while slight sources of irritation which cause fatigue are overlooked. Of these, flat feet and eye strain are most important causes. Nervous factors must be overcome before any progress can be made with treatment.

In the discussion, Dr. A. M. O'Brien, of Sharon, reported the results in treating cases of migraine with intravenous injections of sodium bicarbonate.

EDITH MACBRIDE, M.D., *Reporter.*

PHILADELPHIA

October 26, 1927

The president, Dr. Frederick S. Baldi, in the chair.

THE PRESENT STATUS OF VACCINE THERAPY

Dr. John A. Kolmer: Principles Involved; Analysis of Causes of Success and Failure and Results of Vaccine Therapy in Prophylaxis and Treatment of Disease.—It is the speaker's purpose to refer to the subject briefly, largely as a result of personal experience in vaccine therapy, with no attempt to delve into the unknown or theoretical. Few subjects are more difficult to evaluate than the vaccine treatment of disease, such is the variance of reports from reliable sources.

A vaccine is not a serum, but a suspension of organisms in salt solution. What, then, are the principles involved in the use of vaccines for prophylaxis? Generally, it means that we must recognize the causative organism; then, by means of administration of dead organisms or of organisms modified by animal passage, as in smallpox, we aim to induce in the individual sufficient antibody formation to protect against those organisms for a given time. It also means that we sensitize the antibody-producing tissues, since the protection which ensues seems to be the result both of the presence of antibodies and of a previously sensitized tissue that will produce antibodies on demand. It is a process highly specific. The treatment of hay fever employs just the opposite principle, for here we make an effort to desensitize and to remove antibodies from sensitized cells, when we use preseasonal pollen-extract injections.

In the treatment of disease with vaccines, then, we attempt to produce antibodies—but why should we give vaccine to an individual already absorbing bacteria and their products from foci of infection? Is it not reasonable to assume that the typhoid or pneumonia patient is absorbing enough toxin to produce antibodies? Perhaps, however, there is an interference with the absorption from the foci, especially if the process is chronic and the tissues sclerotic. Here, the administration of a vaccine may call into play immunizing capabilities of tissues not otherwise utilized in the course of an infection. In addition to these effects, an adequate dosage brings about a reaction of hyperemia and exudate around the focus, which facilitates healing. So we have in vaccine therapy two definite mechanisms—a specific action of antibody production, and a nonspecific one of focal reaction with increased leukocytosis and some colloid disturbance in the blood not now understood. The results are better known than the mechanism.

The greatest effect of vaccines is obtained by intravenous therapy. What are the reasons for failure of this therapy? First, the advisability of a fresh vaccine has generally been overlooked, since the bacterial toxins yield the most antibody production, and these are thermolabile. When three to six days are consumed in preparation of a vaccine, the purpose may be defeated—it should be prepared from first cultures when possible. While, on the whole, autogenous vaccines are preferable to stock vaccines in some diseases, as tuberculosis and gonorrhea, we have only stock vaccines—and rather a good stock preparation than a poorly made autogenous one. Probably we shall find that living vaccines prove the best immunizing agent, the most notable example of such being smallpox.

The method of preparation of the vaccine has a very important bearing on the success of the treatment. Mixed vaccines must often be employed, for where there are several organisms found in an infection, such as a chronic bronchitis or an otitis media, we have no reliable method for determining which organism is etiologic, the method of Weiss-Cohen of growing organisms in the patient's own blood being no index of the local pathogenicity of bacteria.

Too much dependence must not be placed on the vaccine alone, for pus must be freely drained, foreign bodies or necrotic bone removed, and all methods for improving the accessibility of the antibodies to the focus promoted (production of hyperemia, etc.). The more superficial the infection the more refractory is it to vaccine, due to the failure of the antibody to come sufficiently into contact with the lesion. Since it is impossible to specify a standard dosage, here again is a frequent source of error.

What are the results of vaccine therapy? In the field of prophylaxis it has had many notable triumphs, outstanding ones being smallpox, rabies, and typhoid. In pneumonia, practically nothing has yet been accomplished. Here is evidenced the different immunizing capacities in various organisms, Gram-negative organisms being better immunizing agents than Gram-positive, and failure being the rule with Gram-positive spore-bearing ones. Either there is no antigenic principle in the protoplasm, or we cannot form antibodies against them. For the common cold, in sixty to seventy per cent of persons free from nasal deformity, where rhinitis is primarily due to infection, mixed vaccines give benefit, and in whooping cough a fresh vaccine may do good. Diphtheria will soon be a disease of the past if our immunization is sufficiently broad. In scarlet fever, vaccines have been disappointing, though it has been possible to immunize a certain number of individuals with relatively large doses and not less than five injections. A certain per cent (about 60 per cent) of hay-fever sufferers, especially those susceptible to ragweed, may be improved or relieved as a result of a large series of injections of large doses. Vaccines used as prophylactic treatment before removal of teeth or tonsils, especially in cases having nerve or joint involvement, are advisable. The result of vaccines in the treatment of disease, on the whole, is not so encouraging as the pioneers originally hoped. Still, they hold an important place in the treatment of a large number of bacterial infections, notably the staphylococcus, streptococcus, and some strains of bacillus coli and pneumococcus, and in certain cases of bronchial asthma.

Dr. George B. Wood: Vaccine Therapy in Otolaryngology, Including the Prophylaxis of the Common Cold.—The speaker has had very little success with the use of vaccines and some discomfiting focal reactions. He employs them only in certain chronic cases, and then refers the patient to physicians accustomed to the use of vaccines. The use of vaccine in an acute cold presupposes that this affection is due to a specific organism, but this may not be the case: often it is at first a peculiar reaction of the nasal tissues to mechanical irritation, an endocrine disturbance, or metabolic disorder, the infection coming later. First, there is a lessened reaction on the part of the host; then, secondarily, active bacterial invasion. However, complete abolition of the second factor will do away with the disease.

Rhinitis can be produced with filtrates of nasal secretions from coryza patients. The claim that there is an organism, demonstrable in the dark field, which always produces a cold when introduced into the nasal cavity has not been corroborated. There is no specific organism for colds, but there are a variety of organisms which produce similar symptoms—pneumococcus, B. influenzæ, staphylococcus, and Micrococcus catarrhalis—and there is distinct experimentation to show that a diphtheroid organism can cause coryza. One organism may be etiologic in the beginning; then, later, other organisms may add to the symptoms. In making vaccines, this variety of organisms must be borne in mind. Treatment of the acute condition depends on the severity of the attack. To put in additional toxin is to increase the load, though when the infection is slight it may help. If you can get a mild infection prolonged enough to prognose, autogenous vaccine is good, *if* there is a capable laboratory technician.

Five questions were sent out to nose and throat physicians in preparation for this paper, and herewith are presented the results: Question 1. What percentage of benefit is obtained by the prophylactic use of stock vaccines? The answers ranged from 0 to 100 per cent, with an average of 48 per cent. Question 2. Do you prefer autogenous vaccines for prophylaxis? Ten preferred autogenous, while twenty preferred stock, which latter the speaker prefers. Question 3. Are vaccines, either stock or autogenous, valuable in treating acute infections of the upper respiratory tract? No, 10; yes, 14; slight, 7; never use, 3. Question 4. Which do you prefer for treatment? Stock, 9; autogenous, 14; either, 2; stock, then, if unsuccessful, autogenous, 4. Question 5. Have any untoward results occurred in the use of vaccines? No, 23; temporary, 4; severe, 4; local pus, 1.

A slight reaction is not uncommon. Often it is severe, and several fatalities have resulted, probably from vaccines in which there were live organisms. The speaker's general impression is that there is still great

uncertainty among nose and throat men as to the use of vaccines in prophylaxis and treatment, the value claimed usually depending on some special technic or individual idiosyncrasy or dosage. Forty per cent will show immunity to some extent after the prophylactic dose. While treatment of an acute condition by this method could not be ground for a malpractice suit, the speaker would refrain from its use. Lack of knowledge of the etiology of colds is fundamentally responsible for failure of results.

Dr. Myer Solis-Cohen: Vaccine Therapy in Internal Medicine with Special Reference to the Pathogen-Selective Method.—The purpose is to stimulate antibodies against bacteria; therefore, it is usable only when the disease is due to bacteria. When organisms live and multiply in a focus, the focus must be removed, but the organisms remaining behind may constitute a bacterial focus of infection. While, after removal of tissue, the patient may manufacture antibodies, it is usually necessary to stimulate antibody production by a subsequent vaccine. Pathogenic bacteria, not pathologic tissue, cause trouble. Misleading reports come from nose and throat specialists, but it is a fact that the real source of secondary infection in the upper respiratory tract can be cured by the proper vaccine. When the patient has a low resistance, his specific resistance should be increased before operation. The autogenous vaccine, as ordinarily prepared, does not prepare specific organisms, for these may never appear in ordinary cultures. If the patient's whole blood is used for culturing, it restrains the growth of those organisms against which he has bactericidal power. Focal, local, and general reactions occur, and benefit accrues from such a pathogen-selected vaccine. All foci must be cultured. In adults and in children, in neurologic disorder or disease of any system of the body where there is infection or evidence of toxemia, preoperatively, or postoperatively, vaccines should be used.

Dr. Jay F. Schamberg: Vaccine Therapy in Dermatology.—The use of vaccines in dermatoses depends upon the depth of the invasion of the organism into the skin. In a few conditions they are of real value, especially where there are staphylococci. In furuncles, where the staphylo-antibodies of the patient are below par, due to a focal infection, diabetes, syphilis, etc., after the underlying cause of lowered resistance has been removed, it is well to stimulate the defense mechanism, either by vaccines or foreign proteins. Autogenous are better than stock vaccines, and these vary in different laboratories. In acne, while the staphylococcic vaccine may lessen pustulation, it does not get at the cause of the disease, which, in juveniles, is usually found in the endocrine system, and in adults in the gastro-intestinal tract. In an excessive dermatitis, vaccines are beneficial, and they are advantageous in pruritus ani and vulvæ. In sycosis vulgaris vaccines commonly fail, though in one series of vaccines that may not have been heated sufficiently to kill the organisms, thus containing heat-labile substances, cures and favorable results were obtained. The speaker believes that we are not now preparing vaccines to produce the best results in the treatment of pyogenic diseases. That sebaceous glands are closely related to the mammary gland and are stimulated by the ovarian hormone is interestingly borne out by the fact that two animals of Australia and New Zealand, the ornithorhynchus and the echidna, suckle their young with a nutrient fluid from the skin, no mammary glands being present.

Dr. Benjamin A. Thomas: Vaccine Therapy in Surgical Disease.—In disease of the genito-urinary tract the use of vaccines is an almost daily practice. There is little new, little that was not known a decade ago. It is important to have a thorough knowledge of vaccine therapy and to know what specific diseases are amenable to this treatment. Bacterial inoculation is contraindicated by a bacteremia, septicemia, prostration, or emaciation. It does not exclude other therapeutic measures, but may serve as an aid to nature against infection. Of surgical affections, vaccines are most potent in certain ones—multiple abscesses, furunculosis, carbuncles, subacute and chronic sinuses and fistulæ, pyelonephritis, pyelitis, cystitis, seminal vesiculitis, vulvovaginitis, periostitis, synovitis, arthritis, keratitis, iritis, iridocyclitis, corneal ulcer, dacryocystitis, tuberculous manifestations, and postoperatively. It is never a substitute for surgery.

In treating chronic otitis media, sinuses, or fistulæ, where there is coagulation, fibrin, or cicatrization, we must see to it that the systemic blood serum bathes the affected parts, and we must induce hyperemia by Bier's method, massage, hypertonic saline, incision, etc. There are from seventeen to twenty organisms against which the body has active immunization, but there exists also saprophytic bacteria which complicate other pathogens and remain uninfluenced by vaccine. In boils and abscesses, autogenous vaccines are preferable, and bacterial inoculation is indicated in persistent suppuration and recurrent abscesses. Vaccines must not be overheated. One case of severe corneal ulcer with hyperopia resulted in an incredible healing after administration of autogenous vaccine, and chronic cellulitis is benefited. In fistulæ, vaccines are unsatisfactory, but sinuses are improved with lavage of bacterins. Prostatitis and vulvovaginitis call for polyvalent vaccine in the acute stage and autogenous in the chronic stage. In adults, vaginitis, endometritis, and salpingitis are uninfluenced. In chronic osteomyelitis, vaccines are meritorious as an adjuvant. In otitis media and mastoiditis, bacterins are of no use. For sinusitis, vaccines are a sheet anchor.

The dose of bacterins must be cautiously gauged by the nature of the bacteria, by the condition of the patient (and for chronic cases the minimum and maximum effective dose must be discovered), by the age and stature of the patient, and by the disease—its toxicity. Malaise, aches, headaches, anorexia, variations in weight—all must be watched, as well as local manifestations in the diseased region and at the site of injection. The best rule is to give first a small or assuredly harmless dose, and in two or three days double the first dose and repeat this at intervals of from three to seven days until there is a reaction. Then none should be given for several days, and the next dose should not exceed its predecessor. Though tuberculin has diagnostic and therapeutic use, it is no good for prophylaxis.

CONCLUSIONS: The employment of vaccines is a valuable asset in surgery and medicine; they form a link in the therapeutic chain. Autogenous vaccines should be employed more than is commonly practiced. Pharmaceutical firms must be encouraged in the making of polyvalent vaccines, and research along these lines should be improved.

In discussion, Dr. Claude P. Brown said that the modification of the preparation of vaccines to remove the "kick" has hampered the production of good vaccine. The Public Health Service, with its requirements for heat and germicides, is largely responsible for this. The speaker would try vaccines plus filtrates, thereby utilizing the substance elaborated by the organisms or due to their death. In meningococcic infection, autolysates are given, since the salt-solution suspension of

bacteria alone is insufficient. Living vaccines have been used successfully in animal diseases. During the war, 10,000,000 were protected with typhoid vaccine (though since dysentery was not common, probably some large share of credit must be given sanitation). Administration of typhoid vaccine by mouth has been claimed to have a local immunizing effect in the intestinal tract.

Dr. John Eiman emphasized the old idea that diphtheria and tetanus produce a soluble toxin, and perhaps many other organisms that produce antitoxin produce a potent toxin. When both bacterins and filtrates are used, better results are obtained, especially in the respiratory tract. In intradermal testing we have a means of judging proper dosage by the amount of reaction, and by this method we often find response to organisms not judged etiologic by the pathogen-selective method mentioned by Dr. Solis-Cohen. If there is an intradermal reaction, the individual does not contain antibodies for that organism. Of a series of cases of essential bronchial asthma, all had chronic purulent bronchitis or sinusitis or both, and administration of autogenous vaccine plus soluble toxin produced a marked allergic reaction in 95 per cent of the cases, with desensitization accomplished in 50 per cent.

Dr. Edward A. Shumway said that by their situation, inflammations of the eye differ in response. In acute conjunctivitis with discharge, vaccine therapy is of no use, nor is it of much avail when the disease has a nasal or gastric origin. Since the origin of trachoma is unknown, vaccine would be illogical. Corneal ulcers, being superficial and not reached easily by body fluids, do better on nonspecific therapy. Disease of the uveal tract, retina, or optic nerve due to contiguity or focal infection should receive surgical treatment and vaccine. For tuberculosis, tuberculin in small dosage is indicated. Metastatic gonorrhea yields remarkably to stock vaccine. Reliable tests of specificity are had in the intradermal injections; if these are negative, nonspecific therapy is advisable.

Mary A. Hipple, M.D., *Reporter.*

WARREN—OCTOBER-NOVEMBER

Twenty-one of our members attended the October 17th meeting of the society. Dr. Mervine reported the State Society meeting. He felt that it was unfortunate to have the State meetings held at a time and place when other big events are occurring—last year the American Legion convention, this year the World Series. Dr. Robertson reported the College of Surgeons meeting.

Dr. Ball gave a sketch of Lord Lister's life. He also demonstrated a specimen of cancer of the stomach. Other cases were reported. Drs. MacDonald, Mervine, Noeson, and Otterbein were the hosts, and furnished dinner at the Conewango Club.

The November meeting, held at the Conewango Club, was one of the best attended of any of the year. Twenty-seven members were present. Dr. George S. Condit gave an interesting demonstration of x-ray pictures illustrating all phases of the work. Committees were appointed for next year's activities. Drs. Curran, of Sugar Grove, and Eaton, of Warren, were elected to membership. The objects of the Healing Art Commission were explained. After this part of the meeting, an oyster supper was served, Drs. Richard and Paul Stewart, Pryor, and Phillips being the hosts.

M. V. Ball, M.D., *Reporter.*

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

Mrs. E. Kirby Lawson, *Editor,*
2533 Walnut Street,
Harrisburg, Pa.

ACTIVITY

MRS. DAVID B. LUDWIG
PITTSBURGH, PA.

Winter is here, the evening of the year, and the time has come for nature's rest; but the activity of man becomes more evident, and brings more forcefully to our attention the plans for the perpetual activity of a universe. Whether we believe that man sprang into being, or that through countless ages he was raised from the existence of a single cell to his present form, there was activity. This is the keynote of our existence; without activity we have atrophy.

In the human race, activity assumes two forms, physical and mental, each depending to some extent upon the other, yet each a thing apart. To mental activity we owe our civilization. This wonderful twentieth century, this highly developed mechanical age, is due to mental activity.

With the approach of winter, men and women assume once more the responsibilities of life laid down for the brief summer season and prepare to go on with the bettering of our civilization. It is, and always has been, the man and the woman coöperating which has brought about the best results in any work. While physically, the brains of male and female have the same construction, mentally there is an infinite difference. The grasp of any situation by male and female minds is different. The course of reasoning, while the two may come to the same conclusion, is arrived at through different channels of thought. So it is that neither sex is mentally complete. Each requires the stimulation of the other to form a complete whole.

There are phases in any masculine occupation which require the mental stimulus of female reasoning. An auxiliary to any organization, while possibly not a *necessity,* cannot but be an *asset.* Woman, by the inquiry which she brings into the reasons for the work of man, stimulates the interest of man in his work and also the desire to develop the possibilities and future of that work. The intuitive curiosity of woman has ever acted as a spur to the inventive and competitive mind of man. Here we have sufficient reason for the organization of an Auxiliary to the Medical Society.

Medical science must go on. The woman who stands waiting to give to the world the product

of her body demands the advancement of medicine. The woman of the Auxiliary must stand side by side with man, ready, willing, anxious to aid in what way she can, for the future of medicine, for the future of the race. The activity of America's minds of tomorrow demands the coöperation of the wife of the medical man of today.

MEETING OF THE STATE EXECUTIVE BOARD

A luncheon and business session of the executive board of the Woman's Auxiliary to the Medical Society of the State of Pennsylvania was held Wednesday, November 16th, at the Penn-Harris Hotel, Harrisburg. The president, Mrs. Charles H. Smith, Uniontown, presided.

The members of the board who were present at this meeting were: Mrs. Charles S. Rebuck, Harrisburg; Mrs. John F. McCullough, Pittsburgh; Mrs. C. S. Forcey, Ambridge; Mrs. W. Wayne Babcock, Rydal; Mrs. J. Newton Hunsberger, Norristown; Mrs. William E. Parke, Philadelphia; Mrs. James I. Johnston, Pittsburgh; Mrs. Kenneth Wood, Muncy; and Mrs. E. Kirby Lawson, Harrisburg.

A recommendation was adopted to establish councilor districts, appointing a councilor woman to each district. Mrs. James I. Johnston, Pittsburgh, was appointed district-councilor chairman.

A complete list of officers and committee chairmen will be found on page VIII of the advertising section of this JOURNAL.

COUNTY AUXILIARY REPORTS

ALLEGHENY

We have the joy this year of welcoming to the chair of the Woman's Auxiliary of the Allegheny County Medical Society Mrs. John F. McCullough, whose devotion to the Auxiliary we do not wait to learn. Mrs. McCullough and her staff of officers received members of the Auxiliary and guests in the reception room of the William Penn Hotel on Tuesday afternoon, September 20th. Decorations were carried out in autumn colors, and the tea table, at which Mrs. Charles H. Henninger and Mrs. Arthur H. Gross presided, supported a candelabra of lighted black tapers and a floral decoration in the form of a double horseshoe, "symbolic," said Mrs. McCullough in her address of welcome, "of the two phases of auxiliary life—the past, with its wealth of memory, and the future, with its wonderful opportunities."

Mrs. C. E. Harris, accompanied by Mrs. Elsie Breese Mitchell, sang "The Nightingale" by Ward-Stephens, "A Maypole Dance" by Louise Ayres Gamet, and "For Music" by Robert Franz. Dr. James S. Hammers, superintendent of the City Home and Hospital, at Mayview, talked interestingly on the work of the institution.

Approximately 125 women attended the reception and greeted the officers.

The "Sunset Tea," which was the last 1927 Auxiliary meeting, held on November 15th, in the Blue Room of the William Penn Hotel, was a most fitting event for the fall of the year. The tea table, at which Mrs. Herbert E. Woelfel and Mrs. J. LeRoy Foster were hostesses, was a riot of sunset colors, while a silver service reflected tall lighted lavender tapers.

Mrs. J. LeRoy Foster opened the meeting with a violin solo, Tolhurst's "Song of Yearning," with Miss Janet Marshall at the piano. At the conclusion of the health talk, Mrs. Foster gave a reading of James Russel Lowell's "Vision of Sir Launfal."

Carrying out the auxiliary's educational policy, the program featured a discussion of "Tests" by Dr. Henry J. Benz, of the Department of Public Health of Pittsburgh. Dr. Benz's talk left his audience with a very clear conception of the importance of the Schick test in the control of diphtheria. Dr. Joseph F. Baird, also of the Health Department, finished the afternoon health talk with a description of the Municipal Hospital.

Last year the auxiliary gave a most successful bridge party, the proceeds of which were used for the Children's Hospital library and to increase our own trust fund. This year, after consultation with and advice from the county medical society, it was decided that the proceeds of the bridge to be held on December 5th, in the ballroom of the William Penn Hotel, should be used to begin a fund to provide for the auxiliary a permanent place in the future home of the Allegheny County Medical Society.

MRS. DAVID B. LUDWIG, *Publicity Chairman.*

LEHIGH

The Lehigh County Auxiliary is in the ninth year of its existence, and is composed of ninety members and one honorary member. Monthly meetings are held on the third Tuesday at the Hotel Traylor, Allentown.

At the annual luncheon, we had the pleasure of having as our guest the State president, Mrs. J. Newton Hunsberger, who made an inspiring talk. In February we entertained at a Lenten Tea in the Parish House of Grace Episcopal Church, each member being entitled to invite one guest. On April 27th we conducted a formal dance at the Elks Club which seemed to be enjoyed by all who attended. On May 7th we cleared $125 at a bridge and "500" party. On June 21st the regular meeting was held at the home of the president, Mrs. Klingaman, Emaus, with an attendance of 42 members. The program consisted of reports from the National meeting at Washington, where we were represented by six of our members, followed by an afternoon of cards and a luncheon. Music was furnished by a trio consisting of Miss Elsie Culver, violin, Miss Lucille Klingaman, 'cello, and Miss Madeline Weidner, piano. On July 19th we held an outing at Shankweiler's Inn, with a card party followed by a chicken-and-waffle dinner. On August 16th a clam bake was held on the farm of Dr. and Mrs. Joseph M. Weaver, with the members of the county medical society as guests. This was a perfect day, long to be remembered.

The auxiliary contributed $25 to the sufferers from the Mississippi flood, and we also make an annual contribution to the two hospitals in our city. At Christmas we fill a basket for a poor family.

Our total assets are $3,456.73, of which $3,100 is profitably invested. Our meetings have been for the

most part of a social nature, though we all agree that they have been beneficial as well as a relaxation to the doctors' wives.

Martha K. (Mrs. H. E.) Klingaman.

LYCOMING

The Lycoming Auxiliary held a special meeting in the Italian Room of the Lycoming Hotel, Williamsport, on Friday, September 9th. Mrs. A. F. Hardt, who is chairman of the committee to raise money for a general refurnishing of the old hospital building, reported that $1,800 has been raised. In addition to this, $1,800 has been pledged by the auxiliary to furnish one ward. Mrs. John D. Nutt was elected a delegate to the State meeting in Pittsburgh, with Mrs. Hardt as alternate. The meeting adjourned early to permit attendance at the county medical society, which was addressed by Dr. Chevalier Jackson on "Prevention of Foreign-Body and Lye Accidents."

The October meeting was held Friday, the 14th, at the Woman's Club House, Williamsport. A luncheon, of which Mrs. George R. Drick was chairman, preceded the business meeting. Dr. J. P. Harley told of plans to provide a permanent home for the medical society. The auxiliary decided to sponsor some project to raise a contribution for the home. Mrs. J. L. Mansuy, of Ralston, was appointed chairman of the committee to arrange an event during the winter. Mrs. A. F. Hardt made a report of the recent State convention.

Instead of holding quarterly meetings, as has been the custom, in the future, monthly luncheon meetings will be held.

Mrs. Ernest T. Williams.

WESTMORELAND

The Westmoreland Auxiliary was entertained by the Jeannette members at a bridge luncheon on November 1st, at the Tea Room in Jeannette.

Mrs. C. F. Pierce, one of the delegates to the State convention in Pittsburgh, gave a most interesting account of the meeting. It was reported that to date twenty-six subscriptions to *Hygeia* had been secured. A suggestion was made that the auxiliary have a benefit card party some time during the year, the proceeds to be donated to the benefit fund for needy physicians. A motion was passed that the auxiliary serve tea for the Nurses' Home on Donation Day, the last Saturday of November.

The December meeting will be held at the Elks Club, Greensburg, December 6th, with luncheon served at 1.30, followed by a business meeting.

SEVEN AIMS FOR PARENTS

1. Fill every period of your child's life with the joy of companionship.

2. Help your child to gain an inner self-control. He will thus be able to endure sharp experiences unflinchingly.

3. From his earliest years teach your child to overcome fear. His freedom of thought and action will fit him for constructive activities of all kinds.

4. Stimulate your child's curiosity. When he asks you questions, encourage his interest in and wonder at life by reasonable, satisfactory answers.

5. If your child has a sense of inferiority, seek to overcome it by dwelling upon that which will make him strong. Thus he will lose sight of his weakness in fun and achievement.

6. Remember that a well-rounded child needs to have a zest for life. Your attitude will assist him to deal with his world unsentimentally and with wisdom.

7. Last, but not least, develop in your child a deep confidence in the moral world. This you must feel yourself before you can ever communicate it to him. —*From Children, the Magazine for Parents.*

THE WOMAN'S AUXILIARY

Heretofore we have not been very favorable to the effort to organize and keep alive what is known as the Woman's Auxiliary of the Indiana State Medical Association, but since giving the subject more thought we are inclined to believe that there is a place for such an organization and we are quite willing to urge the wives of the doctors of Indiana to take an active interest in making it a force for good. The members of this auxiliary, taking their cue from their husbands, can do much to stop the everlasting exploitation that is going on before various women's societies by food faddists and medical pretenders of every description. For instance, under the guise of child welfare we are having certain faddy dietitians, and preachers of physical culture like the McFadden outfit, commercializing their wares before women. All of this could be stopped to a very large extent through the influence of the wives of medical men if organized in what is commonly known as the Woman's Medical Auxiliary. Furthermore, the women of such an organization could do a great work in educating their sisters in the parent-teachers' clubs, women's clubs, and other like organizations. So all in all we are quite in favor of the Woman's Medical Auxiliary as a piece of constructive organization that will go far towards solving some of the problems of rational medicine.—*Indiana State Medical Journal.*

Greeting his pupils, the master asked:
"What would you learn of me?"
And the reply came:
"How shall we care for our bodies?
"How shall we rear our children?
"How shall we work together?
"How shall we live with our fellowmen?
"How shall we play?
"For what ends shall we live?"
And the teacher pondered these words and sorrow was in his heart, for his own learning touched not these things.—*Principles of Education,* Chapman and Counts (Yale).

With growing girls and boys, especially at the onset of puberty, the question of adequate rest and sleep is of supreme importance; its need is often shown at home in ways which, if not understood, are apt to appear somewhat unpleasing, such as lolling about in easy chairs with their legs outstretched, and failing to jump up to open the door for their mother or her friends, lying late in bed—a mechanism of defense—and thus keeping the breakfast hanging about long after the appointed time.....Insufficient sleep is tantamount to overwork and so favors mental instability and liability to the inroads of disease.—Sir Humphrey Rolleston.

THE

MEDICAL SOCIETY OF DELAWARE

THE PREVENTION OF MENTAL DISEASE*

CHARLES W. BURR, M.D.
PHILADELPHIA, PA.

As a rule, the man who really should do the most to prevent mental disorders is the one who does the least—the family doctor. It is not altogether his fault, for unfortunately the twentieth century is wandering after strange gods—specialists. What we need is specialists who know how to treat people. Notwithstanding the excuse too often given by the family physician in mental affections—"Oh, well, it is hopeless"—that attitude is not right.

The percentage of mental and moral degenerates in this country has increased in the past generation, and at the present time seems to be increasing tremendously. There are many reasons for this. The men and women who settled this country were strong, virile, moral, and confident. Their coming was a great adventure, and no one could get across the ocean two hundred years ago unless he had pluck and courage. The weaklings died by the wayside. It was only the strong who survived, and the strong founded this country. As we grew rich, steamship companies began to bring all classes of people from the ends of the world—the lame, the halt, the blind, the imbecile. When I was a student in Berlin, an instructor gave a clinic on imbecile boys and girls (this was thirty-eight years ago), and he made the statement: "Finally, gentlemen, comes the question, what shall we do with them? Ship them to America." He did not know that I was an American. As a matter of fact, thousands of the unfit were sent here, so that the character of migration has not been of the best in recent years.

Another cause of increasing mental and moral disorders is sudden wealth acquired by people who do not know what to do with it. Take as an example a street urchin, with no education and no background, but with the ability to perform tricks which give him success in the movies and millions of dollars. Is it any wonder that he breaks down morally? It is only to be expected, and the instance may be multiplied by the thousands.

Looking at the question of prohibition from all points of view, one is almost driven to the opinion, from the evils that have followed the effort to govern the drink question by statute, that the law has led to more evil than good. An idea has arisen that law is a thing to laugh at. This is both a symptom and a cause of degeneracy among the people.

It is not my place, nor am I qualified to argue as to the abstract truth of any religion, but this I have learned from years of experience and careful study, that the average person cannot go through life successfully and cleanly unless he has on the one hand the fear of hell and on the other the love of heaven. If there be not a god, we must create one. The world will not run without one. Perhaps you and I can get along without God, but the poor little chap in the street is much more likely to lead a life that leads to insanity if he does not have a wholesome fear of hell or a hope of heaven.

Another very specific and direct cause of the increase of degeneracy and of pure insanity has been encephalitis. I know of no other disease which has led to anything like the number of mental and moral breakdowns as have followed encephalitis. There has been an increasing number of young people who, following an attack of this disease, were left either without any physical residuum or with a very slight infirmity, who yet suffered a total change of moral character. Boy after boy and girl after girl is brought into the juvenile courts today with a history that they had been like other boys and girls until an attack of encephalitis had made a total change—always downward, never upward—toward criminality, toward loosening of all inhibitions, and finally landing the victim in the juvenile court for serious or minor crime, but always for crime. This is true in every country through which encephalitis has passed. The courts of London today are overcrowded, and judges speak time and again, since the epidemic of encephalitis, of the tremendous increase in percentage of juvenile crime.

It is a curious thing, but a fact, that no good can

*Delivered before the Medical Society of Delaware, at Farnhurst, October 12, 1927.

be done in this world without a consequent evil, and it is always a question whether the good accomplished overbalances the evil. The great advance in therapeutics has kept living a great number of people, especially young people, who, if nature had not been interfered with, would have died and been saved from harm. I refer especially to those who are mental cripples. The baby-saving movement should first consider whether a given baby should be saved. Trying to save all, hit or miss, and trusting to luck that somehow even these defective little ones will come to some good, is not wisdom. Some babies ought to be allowed to die on account of the mental and moral qualities they are going to possess, on account of the fact that they cannot by any possibility develop into good citizens—and we are trying to save them in large numbers!

These are the most important causes of the increase in the mentally unfit who survive. Can we do anything? Many things are being done, and some of them are productive of more harm than good.

This thing called "psychology" is one of them. A lot of young folk who have studied psychology in college are imbued with the idea of what is called "service," and being eminently brave, think they can cure all evil. So they are going about the world endeavoring to tell us how to make imbeciles into little geniuses. This is a dreadful waste. The real harm they are doing, however, is greater than this. Every once in a while there will be a degenerate boy who is vicious and bad, and who ought to be put somewhere for life where he can be kept out of mischief, for his kind breed like flies. Should he fall into the hands of one of these youngsters who tells his parents to "reason with him sweetly, and so teach the boy to go straight," of course it fails to work, and the boy eventually commits some crime. I should like to make a list of the criminal boys and girls who have gone through the hands of these amateur psychologists and have been permitted to be at large. The immature juvenile psychologist is doing a great deal of harm and no good. I have only respect for the real student of real psychology, but the people who are writing books saying that these mistakes of nature can be made straight and useful citizens by talk ought to be stopped. Degenerate boys and girls should be segregated for life.

If the family doctor ever comes back into his own as the guide and friend of the family—and it is his job to try to get back to that position—he can do a tremendous amount of good in helping to guide young people into their proper channels.

For example, a boy is sometimes brought to me who has gotten into mischief. His history shows that he was compelled to go to school until sixteen, although he was the type nature never meant to be scholastic. At twelve or fourteen he wanted to use his hands, and he was proud and ambitious as a boy, and wanted to go to work. Our laws prohibit that, and require that he must study books. Being a boy of spirit, he fought and played truant and consequently got into mischief, lost his ambition, and did something bad. Then he was brought to me. That boy, if put to work at fourteen, would have made good. He was not a criminal, but nature made him without any urge toward intellectual things, and to try to force him into the same mold as a hundred other boys was a mistake. The fact that sometimes such boys go bad is not evidence that they are inherently bad. The sooner we modify our laws compelling boys and girls to stay in school until they are fourteen or sixteen, the better. There are many who would be saved if they were allowed to work.

It is unjust, too, that the average boy or girl is permitted to grow to manhood or womanhood without any instruction in sex matters at all. The majority of young people are brought to me because they have gotten queer theories into their heads. The majority of them were not born sexually abnormal; they became abnormal because they never had any instruction. This is a thing that cannot be taught in school, as we tried to do in Philadelphia. Preaching sermons to boys and girls does not do any good.

Within the past few months the mother of a fifteen-year-old girl came to me because the child was pregnant. She had been taught by fairy stories, and told this beautiful story about flowers, and so forth, but her mother had never told her the truth. So she went to the bad boy of the neighborhood and told him, and he said "let's play that little game," and they played it, and the girl of fifteen is down for life, the mother is under my care in the hospital—partly from her conscience, for she knows now what she ought to have done—and the father is almost wrecked. And that came from trying to teach her by fairy stories! If that girl had been told before menstruation came what it meant, and warned of her conduct, I am very sure she would not have had this experience.

That is part of the family doctor's job—to teach boys and girls the decencies of sexual life. While we cannot do a great deal, we can save some of the boys and girls who are headed toward destruction, and make them into good, wholesome-minded men and women. We can teach them to avoid crime, avoid vice, and avoid hospitals for the insane by living properly.

ADDRESS OF WELCOME*

HON. ROBERT ROBINSON
GOVERNOR OF DELAWARE

To say that I am delighted to meet with you and extend greetings to your Society is an inadequate expression of my thought.

I was impressed that you opened your meeting with prayer by a minister of the Gospel, showing that you not only individually, but collectively as well, as an association, believe in the worship of a Supreme Being. This is all the more noticeable and pleasing to me because of the lack of an acknowledgment of the Ruler of the Universe at the Conference of Governors which I attended in July. I was astonished that that meeting was opened without prayer or any acknowledgment of the Almighty on the part of the Conference. It seems to me that all meetings of any importance should be opened with prayer.

Your meetings must be productive of good. You exchange ideas which are beneficial individually as well as collectively.

It is quite proper that your meeting should be held in the State Hospital, and I am confident that your host, Dr. Tarumianz, will do everything in his power to make your stay pleasant. The progress made in this institution during the past few years since I have known it has been amazing to me. Speaking as the Governor of our State, I do not hesitate to say that I consider the institution is run in a most satisfactory and economical manner, and when the trustees submitted their budget I felt confident that they were not asking for more money than they actually needed. The unfortunate inmates of the institution should be cared for by our State in the best possible manner.

I am glad indeed to add my word to your meeting, and to welcome you not only personally, but officially as the Governor of the State of Delaware. I trust that your meeting will be both enjoyable and profitable.

*To the Medical Society of Delaware, Farnhurst Session, October 12, 1927.

Medical News

Deaths

MRS. ROWLES, wife of Dr. J. Frank Rowles, of Mahaffey; October 15.

J. ELLIS KURTZ, M.D., of Reading; Jefferson Medical College, 1880; aged 71; recently.

MRS. ANNA M. HAY, mother of Dr. George Hay, of Johnstown; October 11.

FREDERICK CHALMERS, son of Dr. and Mrs. Arthur D. Kurtz, of Philadelphia; aged 17; November 13.

ROBERT A. BAYLEY, M.D., of Philadelphia; member of the staff of Hahnemann Hospital; aged 75; November 24.

GEORGE HALE, M.D., of Haverford; University of Pennsylvania School of Medicine, 1870; aged 84; November 8.

MRS. LAURA M. HUDSON, wife of Dr. Harry Hudson, of Philadelphia; November 27, at the Samaritan Hospital.

THOMAS D. M. WILSON, M.D., of Washington; Jefferson Medical College, 1875; aged 74; September 25, of angina pectoris.

JESSE T. LITTLE, M.D., of Pittsburgh; University of the South Medical Department, Sewanee, 1897; aged 70; in August, of angina pectoris.

GAETANO CONTI, M.D., of Pittsburgh; University of Naples, 1894; aged 59; October 25, in Mercy Hospital, following a cerebral hemorrhage.

LUTHER W. QUINN, M.D., of DuBois; University of Pittsburgh School of Medicine, 1896; aged 57; September 23, from cancer of the hard palate.

CASSIUS M. CARDOT, M.D., of Erie; University of Pittsburgh School of Medicine, 1896; formerly county coroner; aged 60; September 13, of pernicious anemia.

PHOEBE H. F. HAGENBACH, M.D., of Stroudsburg; Woman's Medical College of Pennsylvania, 1879; oldest doctor in Monroe County; aged 96; November 23.

JOHN H. SEIPLE, M.D., of Pittsburgh; University of Pittsburgh School of Medicine, 1912; aged 38; October 25, in Mercy Hospital, from acute encephalitis.

MRS. BIEHN, wife of Dr. Andrew C. Biehn, of Quakertown; during the first week of October. Mrs. Biehn was seriously injured about her head and neck by falling down stairs last April.

ESTHER W. GULICK, M.D., widow of Dr. J. W. Gulick, of Philadelphia (formerly of Stroudsburg); Woman's Medical College of Pennsylvania, 1896; aged 84; November 28, in the Germantown Hospital.

FRANK D. HARRIS, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1895; chief of the gynecological department at St. Mary's Hospital for the last eighteen years; aged 55; November 26, at New Brunswick, N. J.

SIMON H. BAUM, M.D., of Uniontown; University of Pennsylvania School of Medicine, 1897; past president of the Fayette County Medical Society; formerly county coroner; on the staff of the Uniontown Hospital; aged 52; September 24, following a long illness.

CLARENCE K. DENGLER, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1899; assistant professor of dermatology at the University of Pennsylvania for fifteen years, and professor of dermatology at the Woman's Medical College for two years; aged 51; November 26, from septic poisoning contracted while performing an operation.

Births

TO DR. AND MRS. CLINTON S. HERMAN, of Philadelphia, a son, recently.

TO DR. AND MRS. J. S. BROWN, of Lewistown, a daughter, October 23.

TO DR. AND MRS. L. E. LANGLEY, of Williamsport, a son, October 31.

TO DR. AND MRS. ANDREW KNOX, JR., of Philadelphia, a son, November 4.

TO DR. AND MRS. HAROLD F. LANSHE, of Harrisburg, a daughter, October 6.

TO DR. AND MRS. O. M. WEAVER, of Lewistown, a daughter, Margaret Ann, October 18.

To Dr. and Mrs. Merritt H. Stiles, of Philadelphia, a daughter, Mary Elizabeth, October 30.

To Dr. and Mrs. Edward Sheppard Thorpe, Jr., of Ardmore, a son, Fred Spaulding, November 3.

Engagements

Miss Olive Yale Anderson, of New York City, and Mr. Horatio C. Wood, 3d, son of Dr. and Mrs. Horatio C. Wood, Jr., of Philadelphia.

Miss Edna B. Pierson, daughter of Dr. and Mrs. Frank F. Pierson, of Wilmington, Del., and Mr. Bayard W. Allmond, son of Dr. and Mrs. Charles M. Allmond, also of that city.

Marriages

Miss Lida M. Zetty to Dr. Scott P. Verei, both of Philadelphia, October 15.

Miss Katherine Dempsey to Dr. Alfred L. Langdon, both of Philadelphia, November 26.

Miss Margaret Fox, daughter of Dr. and Mrs. Herbert Fox, of Haverford, to Mr. J. Harold Hentz, of Philadelphia, November 19.

Miss Regina Trapold, daughter of Dr. August Trapold, of Wilkes-Barre, to Dr. Edward Leo McGinley, also of that city, November 9.

Miss Jean Ulman, daughter of Dr. and Mrs. Joseph F. Ulman, of Philadelphia, to Mr. Daniel S. Bernheim, also of that city, November 13.

Miss Elizabeth Dorothy Comber, of Philadelphia, to Mr. William Herbert Chandlee, Jr., son of Dr. and Mrs. William Herbert Chandlee, of Philadelphia, November 2.

Miscellaneous

Dr. and Mrs. H. L. Hill, of Johnstown, have returned from a trip to Europe.

Dr. G. Alvin Poust, of Hughesville, attended the American Legion Convention in Paris.

Dr. C. E. Helm, of Quarryville, was elected on the Republican ticket as prothonotary of Lancaster County.

The next meeting of the National Tuberculosis Association will be held at Portland, Oregon, during the week of June 18, 1928.

Dr. Charles Hamlin Pelton, formerly superintendent of St. Luke's Hospital, Chicago, has been appointed superintendent of Montefiore Hospital, Pittsburgh.

The Pennsylvania State League of Nursing Education and the Graduate Nurses' Association of Pennsylvania, held their annual sessions in Erie, in October.

The new nurses' home of the Chestnut Hill Hospital, Philadelphia, was formally opened November 5. The address was delivered by Dr. E. A. Schumann. The new structure cost $250,000.

Dr. George A. Parker, Jr., of Newtown, and Dr. George T. Fox, of Bristol, ex-service men, have returned to their homes after attending the sessions of the American Legion in Paris.

Effective January 1, 1928, the name of the National Committee for the Prevention of Blindness will be changed to the National Society for the Prevention of Blindness, Incorporated.

Plans for a county tuberculosis hospital at Norristown have been abandoned, for the present at least, after Montgomery County voters disapproved the project 9,658 to 7,602.

The Nobel Prize for medicine for 1926 has been awarded to Prof. Johannes Fibiger, of Copenhagen, and that for 1927 to Prof. Julius Wagner von Juaregg, of Vienna. The prizes are valued at about $32,000 each.

In the national drive for $2,000,000 as a memorial to General Leonard Wood for the eradication of leprosy, Philadelphia has been asked to furnish a minimum of $50,000. At the recent opening of the campaign in Philadelphia, $15,000 was subscribed.

Mrs. James I. Johnston, of Pittsburgh, whose work has found a place in an international art exhibit, arranged an exhibition of her pictures in her home, November 8, to which she invited the members of the Woman's Auxiliary.

The Physicians Motor Club of Philadelphia held its annual meeting and election of officers, November 8, at the Bellevue-Stratford, with more than 300 members present. Dr. S. Leon Gans was reëlected president, as were all the other officers.

Dr. John M. T. Finney, professor of clinical surgery at Johns Hopkins University, Baltimore, was tendered a reception by the Medical Club of Philadelphia in the Bellevue-Stratford, October 28, at which more than 400 medical men were in attendance.

The new women's ward of the Rush Hospital for Consumptives and Allied Diseases, at 33d Street and Lancaster Avenue, Philadelphia, was opened for inspection on the afternoon of October 28. It was dedicated to the memory of the late Jules E. Mastbaum.

Mr. Melvin L. Sutley, who has been assistant superintendent of the Pennsylvania Hospital, Philadelphia, for the past year and a half, has been appointed superintendent of the Delaware County Hospital to succeed Miss Rena P. Fox, who has resigned on account of ill health.

Dr. John Welsh Croskey, of Philadelphia, has been appointed consulting ophthalmologist in the Philadelphia General Hospital in recognition of his twenty-six years of service there. This honor had been paid heretofore only to one ophthalmologist—Dr. George E. deSchweinitz.

Dr. Otto Rath, chief surgeon of Memorial Hospital, Roxborough, was critically injured on the night of November 27, when he stepped from a trolley car into the path of an automobile. He was taken to the hospital, where an immediate operation was performed in an effort to relieve pressure from a fractured skull.

The State Board of Medical Education and Licensure will hold its next licensing examination in the Medical Laboratories of the University of Pennsylvania at Philadelphia on January 31 to February 4, inclusive. The first three days will be given over to the written examination, and the last two to the bedside examination.

Russell B. Tewksbury, Sc.D., has resigned as head of the vital statistics bureau of the State Department of Health and has been succeeded by George B. L. Arner, Ph.D., formerly statistician in the U. S. Department of Agriculture and with the Ohio State Board of Health and the International Health Board of the Rockefeller Foundation.

At its meeting on November 1, the State Board of Medical Education and Licensure suspended the license of Dr. Joseph Kowaleski, of Shamokin, because of charges preferred by the Bureau of Drug Control to the effect that he is addicted to the use of narcotic drugs to such an extent as to make him unsafe as a practitioner of medicine.

The Medical Society of the District of Columbia cordially invites physicians visiting in the Nation's Capital to make the Society Building, 1718 M Street, N.W., their medical headquarters during their stay. Here will be found a library containing current medical periodicals, daily lists of clinics held in the various hospitals, and opportunities for makng personal contacts with the local profession.

A combined meeting of the New England Pediatric Society, the Philadelphia Pediatric Society, and the Section of Pediatrics of the New York Academy of Medicine was held on October 29 at the Academy. The

program included visits to Bellevue Hospital, the Hospital of the Rockefeller Institute, luncheon at the Rockefeller Institute, and a meeting at and inspection of the building of the New York Academy of Medicine.

IT HAS BEEN RECENTLY ANNOUNCED that a scientific investigation designed to standardize and simplify retail drug stores' stocks is being sponsored by the National Wholesale Druggists' Association. The investigation will have the support of the manufacturers, wholesalers, retailers, and colleges of pharmacy. The Association has contributed $20,000 toward the first year's cost of the investigation.

THE MERCER SANITARIUM TRAINING SCHOOL for Nurses held commencement exercises in the parlors of the Sanitarium at Mercer, on Friday evening, October 21. Dr. Weir C. Ketter, president of Grove City College, made the address of the evening. Dr. W. W. Richardson, Medical Director of the Sanitarium, presented the diplomas to the graduates, and Miss Leece, Directress of Nurses, presented the pins. A reception, refreshments, and dancing followed.

GIFTS TOTALLING $3,500 have been received by the committee for the Stewart Memorial Crèche to be built in the new hospital of the Woman's Medical College of Pennsylvania, Philadelphia, as part of the campaign contributions to the $1,500,000 building and endowment fund. The Stewart Crèche, named in honor of Elizabeth Lusby Stewart, the mother of Dr. Lida Stewart-Cogill, professor of obstetrics at the college, will be an essential unit in the maternity department of the new hospital.

THE AMERICAN CHEMICAL SOCIETY has offered to freshmen in American colleges cash prizes totaling $6,000 for essays on subjects related to chemistry in its relation to health and disease, to the enrichment of life, to agriculture or forestry, to national defense, to the home, or to the development of an industry. The essays must not exceed 2,500 words in length, and must be handed in before March 1, 1928, to the Secretary, Committee on Prize Essays, American Chemical Society, 85 Beaver Street, New York City.

THE UNITED STATES Civil Service Commission has announced that hospitals of the United States Public Health Service and the Veterans' Bureau throughout the country are in urgent need of laboratorians in bacteriology and roentgenology, and that applications for the positions will be rated as received until January 7, 1928. For full information and application blanks, apply to the secretary of the local board of United States civil service examiners at any first-class post office, or to the United States civil service district secretary at Philadelphia, Pa., or Washington, D. C.

PHYSICAL EXAMINATIONS were introduced this fall at the health exhibit of the Schuylkill County Fair. Newspapers announced this new feature for several days previous to the opening, and many persons came to the fair with the definite purpose of having a health examination. A crowd gathered continuously about the health exhibit and more persons were listed for examination than could be accommodated. The examinations were conducted by the medical secretary of the Pennsylvania Tuberculosis Society, Dr. W. P. Brown. A report of the observations and recommendations was given to each person and also sent to the family physician.

ON OCTOBER 18, the Pittsburgh *Press* was host to sixty-six physicians, each of whom has been in practice at least twenty-five years, at a banquet at the William Penn Hotel, Pittsburgh. The occasion was planned as an expression of Allegheny County's gratitude and appreciation to these faithful servants who, the *Press* notes, represent the highest tradition in ethics of the medical profession of the community, many of them being of that old school "which knew mud roads, long drives in carts, and all-night vigils by the sick bed." Greetings of the *Press* were received by the veterans by a rising vote of thanks for planning and conducting the banquet and for the theatre party later at which they witnessed a film entitled "The Country Doctor."

NEW YORK UNIVERSITY has announced the opening of a special clinic and laboratory at the Sydenham Hospital to study exclusively cases of asthma, eczema, hives, hay fever, and other allergic diseases of children from infancy up to puberty. It is the first of its kind to be established, in that this type of disease will be studied in a shorter time and more intensively than ever before. It was made possible by an anonymous gift of $30,000. Dr. Bret Ratner of the New York University and Bellevue Hospital Medical College staff, who will direct the work of the clinic, began his investigations several years ago in the physiology department of the late Professor Holmes C. Jackson when an initial gift of $15,000 for research in this field was given the University by the same donor.

A SPECIAL MEETING of the Academy of Natural Sciences of Philadelphia was held Tuesday, November 1, 1927, at 8 p.m. At this meeting the Board of Directors of City Trusts of the City of Philadelphia presented John Scott Medal Fund Awards to the following individuals: Dr. Afranio do Amaral, director the Antivenin Institute of America, and of the State Serum Institute, Butantan, Brazil, for "the preparation of antivenins"; Dr. Alfred Fabian Hess, clinical professor of children's diseases, Columbia University, New York, for "a method of producing a vitamin factor in food by ultraviolet light"; Dr. Peyton Rous, pathologist, Rockefeller Institute for Medical Research, for "a filtration technic separating from tumor cells of fowls a substance producing the disease."

AT THE ANNUAL MEETING of the American Pharmaceutical Association held in St. Louis in August, resolutions of interest to physicians were adopted as follows: (1) Compounding telephone prescriptions for certain combinations containing narcotic drugs—Be it resolved by the American Pharmaceutical Association that the Deputy Commissioner of Prohibition in Control of Narcotic Drugs be urged to include in the revision of Regulations No. 35 a regulation which will permit pharmacists to compound telephone prescriptions containing small quantities of narcotic drugs in such combination with other drugs as will obviously unfit the finished prescription for habit-forming purposes. (2) Elimination of codein and its salts, apomorphin, and stypticin from provisions of the Harrison Act—Whereas the Harrison Narcotic Law is intended to control the traffic in drugs that have the habit-forming properties, and whereas competent medical authority claims and pharmaceutical experience sustains the claim that codein and its salts, apomorphin, and stypticin are not habit-forming drugs; therefore, be it resolved by the American Pharmaceutical Association, in annual convention assembled, that we go on record as approving a change in the Harrison Narcotic Act leading to the elimination from its provisions of codein and its salts, apomorphin, and stypticin.

THE ANNUAL SESSION of the Philadelphia Tuberculosis Conference was held November 15. The activities of the day were devoted to plans for a future program for the fight against tuberculosis in Philadelphia. Although, through an unceasing campaign of education, tuberculosis has fallen from first to fifth place in the last quarter-century among those diseases claiming the highest mortality in Philadelphia, the age group in which mortality is heaviest is that which the community can least afford to spare. The recommendations of the special committee report fell into five general classifications, which were: increased effort in the discovery and diagnosis of tuberculosis; increased hospital and sanitation provisions; increased effort at prevention among preschool children; other needs and recommendations; and, finally, official action. Most significant among the score or more of specific

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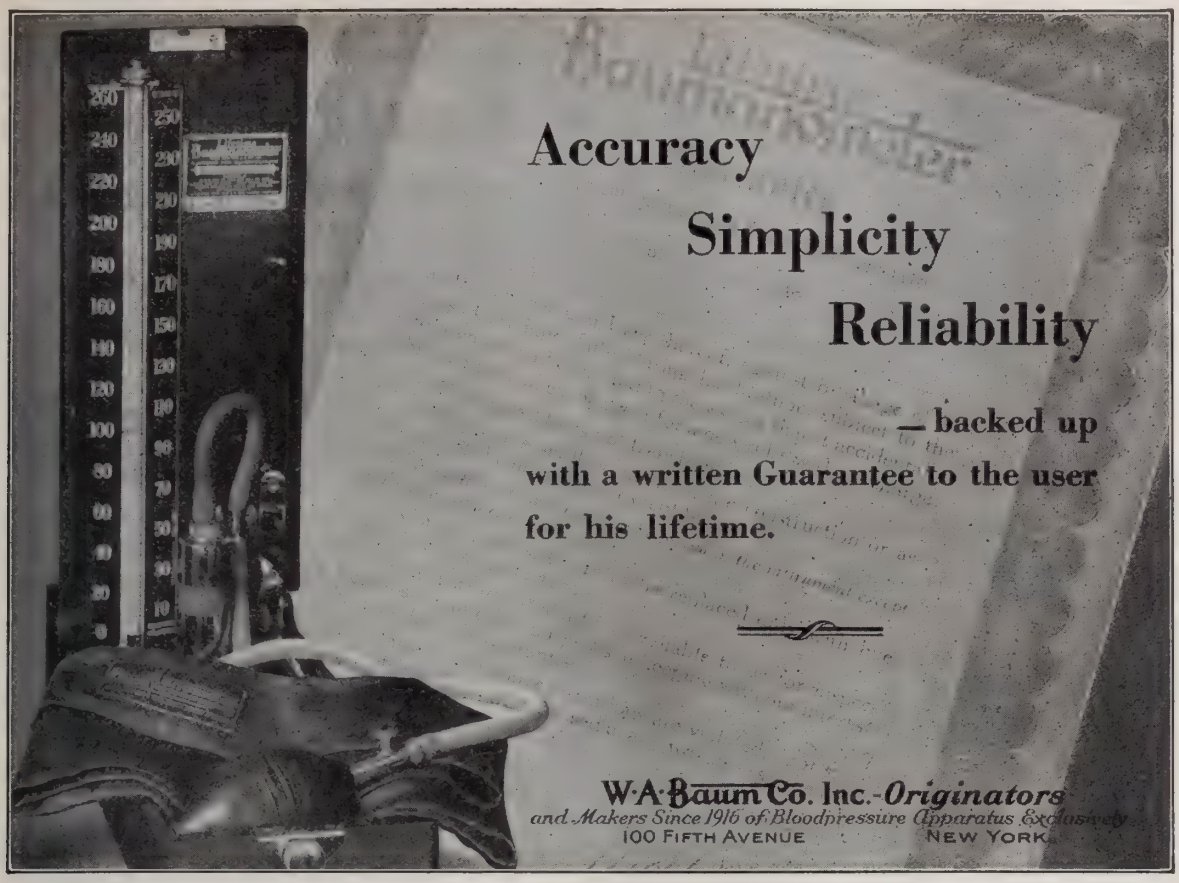

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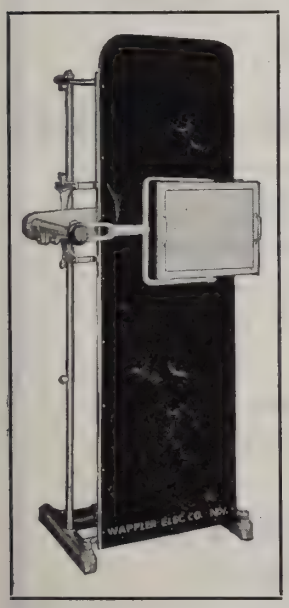

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MEDICAL NEWS

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prerequisites for the carrying out of the program the special committee found to be: the employment of twenty or thirty additional public-health nurses; the expansion of the municipal-clinic service by 134 additional beds for tuberculous patients in the city hospitals; the need for a children's sanatorium, particularly one equipped for a more extensive use of heliotherapy; a more comprehensive program for dental prophylaxis; increased activity against tuberculosis among the negro population, where the death rate today is 330 to every 100,000 population, or about four and one-half times as great as among the white population, where the rate is 75 per 100,000; the institution of a division of industrial hygiene in the Department of Public Health of Philadelphia, for the education of employees and employers alike in the diseases lurking in industrial pursuits, frequently unknown and unrealized by either employee or employer.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

A TEXTBOOK OF THERAPEUTICS, including the Essentials of Pharmacology and Materia Medica. By A. A. Stevens, A.M., M.D., Professor of Applied Therapeutics in the University of Pennsylvania, Philadelphia. Seventh edition, entirely reset. Published by W. B. Saunders Company, Philadelphia. Price, $6.50 net.

This textbook has been revised and thoroughly brought up to date to conform with the changes required by the Tenth Decennial Revision of the U. S. Pharmacopœia. Dr. Stevens incorporates in the chapters on therapeutics the results of his many years of clinical study and observations as bedside teacher and clinician, so that his findings and recommendations are always safe to follow. This book is always reliable and is heartily recommended.

REGIONAL DIAGNOSIS. By Dr. Robert Bing, Professor in the University of Basle. Third edition. St. Louis: C. V. Mosby Company, Price, $6.

The author has succeeded remarkably well in condensing into less than two hundred pages the facts of the anatomy and physiology of the brain and spinal cord that are essential for regional diagnosis, including also a brief description of the symptoms and signs associated with lesions of these structures.

The outstanding feature of the work is the lucid manner in which a supposedly difficult subject is handled. A large number of simple but comprehensive diagrams contribute largely to this result.

The book has undoubtedly already demonstrated its usefulness to the practicing physician, for whom it is primarily intended. It should be of value also to teachers who find it necessary to select from a field that has grown too extensive for complete presentation those facts that are likely to be most useful to their classes.

INFECTIOUS DISEASES AND ASEPTIC NURSING TECHNIQUE. A handbook for nurses by Dennett L. Richardson, M.D., Superintendent of the Providence City Hospital, Providence, R. I. Illustrated. Philadelphia and London: W. B. Saunders Company, 1927.

As long as the curriculums of nurses' training schools continue to require a nurse to be *theoretically* a physician instead of *practically* a nurse, thus necessitating their spending much more time in the laboratory and classroom than at the bedside, books such as this will be needed, and the author is to be commended on the

(Concluded on page xx.)

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BOOK REVIEWS

(Concluded from page xviii.)

division he makes of the subjects discussed, and the conciseness of his statements under each of the headings. In spite of this, however, although the author states he is only presenting facts that a nurse *needs* to know when, as a matter of fact, they are rather facts that a nurse *has* to know, it would seem that much of the detail, abridged though it is, might with safety and advantage be eliminated.

The chapter on the care of infectious diseases at home is very good, as are those on administrative and ward technic and methods of disinfection. It is only in connection with the study of the various infectious and contagious diseases that the writer might have been more brief; in other words, the more information given to the nurse concerning the care of the patient and herself, the better, but the less medical knowledge (especially as to diagnosis, complications, and treatment of diseases) she possesses, the more likely she is to rely upon the physician, as she should, and the less likely would she be apt to take too much upon herself.

THE HEART AND ATHLETICS. By Drs. Felix Deutsch and Emil Kauf, of Vienna. St. Louis: C. V. Mosby Company. Price, $2.50.

In this latest study Drs. Deutsch and Kauf have carefully classified athletic activity according to the amount of enlargement of the heart caused by each of the sports under observation. More than two thousand athletes have been examined at the Vienna Heart Station, and the results of these observations form the basis of their study.

The authors have shown that the activities which caused the greatest enlargement of the heart among athletes are wrestling, weight-lifting, and hiking. It is a very important study and a great step in the right direction. The book is worth while reading.

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PENNSYLVANIA'S GREATEST PUBLIC NEED*

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Every member of this audience knows that for years the development of our State institutions for the treatment and care of the insane, the feeble-minded, and the epileptic, and for the confinement and rehabilitation of offenders has not kept pace with the growing and recognized needs of these unfortunate classes. In consequence, our great Commonwealth is inadequately equipped to perform one of its principal functions.

The people of Pennsylvania must be made to face this situation squarely, and decide whether or not the State shall be provided with the necessary facilities. Shall it be permitted to furnish efficient and scientific care of these, its helpless wards, and to maintain humane and constructive confinement of its offenders?

The only practicable way to meet this greatest public need of Pennsylvania is ratification by the people of the bond issue for the State's unfortunates, passed by the last two Legislatures. This resolution would amend the Constitution so as to authorize the State to issue bonds not to exceed $50,000,000 to finance construction of State-owned institutions for the feeble-minded, epileptic, and insane, for penal offenders and delinquents. It is estimated that this sum will be adequate to take care of a ten-year building program.

OVERCROWDING

This general situation of the inadequacy of our State institutions and the proposed way to remedy the evil by a carefully earmarked Bond Issue I believe you all know. Do you know that there are 2,092 insane patients who cannot get proper care in our Pennsylvania hospitals today? Why not? Because there are not enough beds for them. There are 2,592 other insane patients on parole. Do you know that overcrowding is so great that many of these helpless patients are sleeping in dark hallways; on mattresses; on the floor; in places meant for sitting rooms? Do you know that during the last five years there has been an average increase of 1,136 insane patients each year over the year before? Do you know that the American Legion reports 1,200 Pennsylvania ex-service men as mentally ill, and that 700 of these boys have to receive care outside of Pennsylvania because we have no room for them?

In the treatment of the insane it more than pays the State to do that work on the most efficient basis. The better the facilities for care and treatment, the more quickly patients can be cured or sufficiently improved to return to the community so that the State is relieved of the cost. Under present conditions of overcrowding, with inadequate facilities for both patients and staff, the State hospitals are greatly handicapped in their curative work. Apart from all questions of humanity, sympathy, pity, or even of justice, the most humane and scientific treatment of the insane is the most economical for the State.

Moreover, there is to be considered the fact that without skillful treatment, mental disease may become chronic, and render the patient dependent for the rest of his life. Furthermore, there is to be considered not only the cost of supporting the patient, but the fact that the family which is left behind when the wage earner must go to the hospital may also become dependent upon public or private charity. The restoration to a family of a father or mother or son or daughter under favorable hospital conditions, who under unfavorable conditions might become an incurable patient and require lifelong care in a hospital, means a tremendous saving when considered merely in terms of cold cash.

How about the feeble-minded? In our three institutions for mental defectives there are now 1,200 more than there is room for. There is no economy in the postponement of our obligations. Our policy in regard to the feeble-minded is constantly rolling up a heavier bill. To take a few concrete instances:

Since 1913, four feeble-minded daughters of a feeble-minded mother have cost the city of

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Philadelphia $20,000, and as they are all under 25 years of age and in good health they will certainly cost the city at least $50,000 during their life spans.

In one Pennsylvania city a study was made recently which showed the results of the marriage of two feeble-minded women with two low-grade men. Among the descendants are feeble-minded, epileptics, alcoholics, insane, persons sexually promiscuous and known to the courts; in all, upwards of 100 individuals who are "cases" of the Family Welfare Society. Segregation of these two feeble-minded women some years ago would have prevented this social wreckage.

There are over 1,500 persons now on the waiting lists of the three State institutions for the feeble-minded. There are hundreds more in the care of local and private agencies not intended for the care of this type of case, and in jails, penitentiaries, and almshouses. No one can compute the cost to the community of the neglect of this class. Have you ever tried to get a feeble-minded person into one of our State institutions and found out how difficult it is?

Do you realize that in one of our State schools for the feeble-minded there are now 975 inmates over capacity? The children sleep in double-decker beds in the school rooms and on mattresses on the floor in the hospital building. Such overcrowding curtails the training activities of the school, and increases the difficulties of management.

Epileptics are even worse off, for 1,200 of these unfortunates are now mixed up with insane and feeble-minded patients. They need a special institution for their care. The last Legislature made a small initial appropriation to begin such an institution.

In the beginning of the 19th century Pennsylvania led the way in prison building, but in this, the 20th century, our penitentiaries have become obsolete. The Eastern Penitentiary (built in 1829) has 1,624 men in cells built for 1,100.

Staff Living Conditions Unsuitable

Not only are our institutions seriously overcrowded, but the living quarters of our medical staffs, nurses, and attendants are often so unsuitable that there is a constant and expensive labor turnover. For example, in some instances the dental hygienist and occupational therapists are crowded three in a room in the same quarters with the maids and kitchen help. Nurses are required, after a twelve-hour day, in an atmosphere that is far from normal and depressing in the extreme, to occupy rooms above the same wards in which they have worked all day.

Curative Work Handicapped

The great object sought in the hospitalization of the mentally ill is scientific medical treatment with a view to curing the mentally diseased and restoring the individual to social and economic efficiency rather than to provide an asylum for him at the expense of the taxpayers. Without question, the present situation is demoralizing to our ward employees and medical officers. It is productive of much harm to patients. It is impossible to give the best chances of recovery to mentally disturbed patients when they are crowded together as they are today. In one of our State hospitals six doctors are required to take care of 3,000 patients.

Clinic Cases Neglected

The Department of Welfare has established 57 mental clinics. Through these clinics pass day after day mentally defective boys and girls who cannot be properly cared for at home, hundreds of feeble-minded women of child-bearing age, and people suffering from mild and curable cases of mental disease who may be admitted as voluntary patients to the State hospitals. At the present time, however, the State is not equipped to care for and treat these types of cases. A physician at one of our large State hospitals states: "There are few wards set aside for early, mild, and curable cases, and the patient if he comes for treatment may find his bed among the acutely disturbed homicidal or suicidal patients."

Fire Risks Are Great

Early in 1923, twenty-two insane patients and three attendants were burned to death in a fire which destroyed one of the buildings of the Manhattan State Hospital for the mentally ill on Ward's Island, New York City. This building was built in 1870 before modern methods of fireproofing were known. *In Pennsylvania, hundreds of helpless victims of mental disorders are crowded in equally inadequate buildings.*

Need of Two New Types of State Institutions

(a) Institution for male defective delinquents. These subnormal offenders, these feeble-minded criminals, now constitute a large portion of the "repeaters" in our penal institutions. Many require indefinite custody.

(b) Psychopathic hospitals. If we are to do effective work in the *prevention* of mental disease we need two State psychopathic hospitals, one in the eastern and one in the western part

of the State. These are institutions for the study, observation, and treatment of incipient and recoverable cases of mental disease, and incidentally furnish facilities for psychiatric training of physicians and nurses. Their great value as a factor in the prevention of mental disease has been recognized by most of the other important states of the Union.

The average annual net increase of patients in the State and county hospitals means that every *two* years we need an additional hospital for the mentally diseased. The prospect would be profoundly discouraging if it were not for the fact that modern knowledge of mental hygiene holds out to us the hope that a considerable proportion of mental disease can be prevented. While it is the belief of psychiatrists that the most effective preventive work can be accomplished in childhood, it has also been demonstrated that much incipient disease can be checked by prompt treatment of the adult.

With these facts in mind let us do more than deplore the inadequacy of our State institutions. We have a remedy at hand in the hospital bond issue. Our Legislatures of 1926 and 1927 have taken action which, if ratified by the people next year, will enable us to make provision for the development of these institutions to meet our needs. This opportunity will not knock at our door again for another five years. We cannot afford to reject it. No other means of guaranteeing a continuous policy is practicable, and we must establish a continuous policy if the building that the State has to do is to be done in a businesslike way and in a reasonable amount of time.

There is no economy in the method we have had to pursue. Piecemeal construction is not only ineffectual but it is extravagant. Any one with a knowledge of building knows that it costs infinitely more and even results sometimes in the deterioration of the work under construction. To take one example: It took eleven years to build one of our finest State hospitals, that at Allentown. It could have been built in from two to three years. During eleven years the State invested money in this undertaking without getting any return. Not one patient was cared for. The interest on the State's investment of the first eight years at 4 per cent would have amounted to about $400,000. There is no economy in denying to our hospitals the developments they need to do their job efficiently.

As to the cost of the proposed bond issue, two methods have been suggested. The total cost of one will be $62,000,000, of the other $71,000,000. Let us assume, for the sake of argument, that we choose the more expensive of these two methods, which results in the lesser average annual burden, namely, $2,448,275. These would be 4-per-cent 20-year straight serial bonds, issued over a period of ten years. The average annual cost to the people of Pennsylvania would be 25½ cents per capita over a period of 29 years.

The cost of borrowing money will certainly be largely, if not wholly, offset by businesslike planning and letting of contracts, but it is certainly worth paying something to get what we need when we need it. We believe that it is possible to take care of the annual charges of interest and retirement from our present current revenues *without additional taxation.*

As to the soundness of financing such capital developments from a bond issue, I do not believe there can be any question. The buildings which will be constructed from these funds will serve the State for a generation after the bonds have all been retired and forgotten. It is entirely equitable to spread the cost of such capital developments over a number of years. If, however, after the ratification of this amendment, the State should create a fund for capital developments, such as the Tax Commission has suggested, there is, of course, no obligation on the Legislature to issue any more bonds than the situation demands.

An impression has existed that business men do not look with favor upon this proposition. This measure has the support of many of the outstanding businessmen of Pennsylvania, such as General Harry C. Trexler of Allentown, vice president of the Pennsylvania Manufacturers' Association; Arthur W. Thompson, president of the United Gas Improvement Company; Thomas S. Gates, of Drexel and Company; Ellis A. Gimbel, Samuel S. Fels, and Albert M. Greenfield of Philadelphia; Alan Dodson, of Dodson, Weston Company; Quincy Bent, of the Bethlehem Steel Company; and many others.

There is one more point that I wish to bring out. There has been criticism of this proposition from one quarter, based on the assumption that were this bond issue authorized there would follow an orgy of extravagance and corruption on the part of the Legislature. If such a criticism ought to be taken seriously, we might as well give up representative government entirely. In New York the expenditure of a similar sum was carefully and systematically planned with the advice of the best technical experts, and it was put through by the Legislature with the utmost efficiency. No one has had one word of criticism of the way this money has been expended, not even Ogden Mills, and if he had nothing to say I expect the performance must have been flawless. I have never heard that New Yorkers were any more honest or any more efficient than Penn-

sylvanians. I think we can point with pride to the expenditure of twice this sum on our roads.

I believe the people will ratify this amendment. I believe that we can accomplish a vitally important task for the Commonwealth of Pennsylvania, as a result of which we may look forward to a decrease in the burden of social wreckage which is now yearly growing heavier; as a result of which we will make Pennsylvania a leader in the handling of its social problems instead of a laggard, as it is today. The present administration, by its support of this bond issue at the last legislative session, has inaugurated a new policy. Let us by our action guarantee popular approval in November, 1928.

CERVICAL RIB*†

The Anterior Approach with Division of the Scalenus Anticus Versus the Lateral Approach with Resection of the Rib

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Further experience with the anterior approach and division of the scalenus anticus muscle, in addition to that previously reported[1], convinces me still more firmly that the scalenus anticus muscle plays a very important rôle in compressing the subclavian artery and in producing pressure on the brachial plexus against the cervical rib. I shall attempt to emphasize the anatomic distortion produced by a cervical rib, directly and indirectly, and to delineate its relation to the brachial plexus, the subclavian artery, and the scalenus anticus muscle; to justify anatomically and physiologically, as well as by presentation of the results obtained, the anterior approach with division of the scalenus anticus muscle in preference to the lateral approach with resection of the cervical rib, for brachial-plexus and vascular symptoms in the presence of supernumerary cervical ribs.

HISTORY

Galen and Vesalius were the first to describe a cervical rib in detail. Helkiah Crooke, in his *Mikrocosmographia* of 1651, mentions that Bauhin found thirteen ribs on each side at necropsy. Hunauld[20], the pioneer of our present conception, published his article in 1740. In 1818, A. Cooper was treating symptoms of cervical rib medically with some success. Pilling reported 139 necropsy cases of cervical rib in 1860. In 1861, Coote[9] performed the first operation and relieved the symptoms. Planet[25] reports the second operation (by Perior in 1890); all symptoms were immediately cured. Fischer[15], in 1892, operated on the third patient with success. Operation had been performed in eight cases by 1895. In 1906, Keen[22] reviewed all the cases in which operation had been performed to that time, numbering forty-two.

EMBRYOLOGY

Jones[21] attributes the embryologic formation of supernumerary ribs to a conflict between forming plexuses and ribs. The snake, without neck, waist, arms, or legs, possesses two ribs for each vertebra with corresponding separate segmental nerves. In higher forms the limb buds cover several vertebral segments, the nerves from which grow into the buds. However, the diametric growth of the limb buds does not keep pace with the longitudinal growth of the vertebral column, and soon segmental nerves have to pursue an oblique course to enter the buds. Then begins the conflict between the obliquely running nerves and the newly forming ribs. The embryonic nerve trunks are far larger in proportion to the vertebræ and ribs in the embryo than in the fully developed animal. The obliquely running nerves normally impede the growth of the ribs, so discouraging them that they merely form vertebral processes. Todd[36] states that ribs are normally present in the fetus in articulation with vertebræ above the eighth, and that after birth they are present only as transverse processes of the cervical vertebræ.

The extent of growth of a cervical rib is determined by the resistance of the nerve in its path. Jones asserts that anomalies in the arrangement of rib plexuses are primary and not secondary to rib formation. In a normal brachial plexus the first dorsal nerve may vary in its contribution from a mere thread to a bulky cord. Eisler asserts that when a cervical rib is well developed the plexus either receives no contribution or only a very small one from the first dorsal nerve. Jones has found in cases of rudimentary first thoracic rib that the second dorsal nerve makes a considerable contribution to the brachial plexus. Todd believes that the vessels have equal importance with the nerves as causative factors in modifications of the upper end of the thorax.

ANATOMY

Comparative. Many variations in the number of ribs and situation of limbs are to be found in the evolution from snake to lizard. Cervical ribs are normal in crocodiles. The anthropoid ape has thirteen pairs of ribs. Adolfi[2] found a dog with twenty-six ribs. Evolutionists assume that there is a tendency toward shortening of the thorax, but there is no logical reason to be found

*Read before the General Session of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.
†From the Section on Neurologic Surgery of the Mayo Clinic.

for this. It is more probable that any departure from the normal number of ribs is anomalous.

Costal Anomalies in Man. Man has normally twelve pairs of ribs. Todd classifies the various anomalies in three groups: (1) anomalies of the lower end of the thorax, with increase or decrease in number of ribs; (2) anomalies of the upper end of the thorax, with increase or decrease in the number of ribs; and (3) anomalies of the upper and lower ends of the thorax. He finds no evidence that associated anomalies at both ends of the thorax are compensatory.

The reported anomalies of the upper end of the thorax run from rudimentary first ribs to double cervical rib on the same side. Gruber[17], of St. Petersburg, in 1869, classified cervical ribs in so complete a manner that his classification has never been improved upon. He divided them into four groups according to the extent of growth which was: (1) of slight degree, the cervical rib reaching beyond the transverse process; (2) more advanced, the cervical rib reaching beyond the transverse process, either with a free end or touching the first rib; (3) almost complete, the connection with the cartilage of the first rib being formed by means of a distinct band or by the end of the long body of the cervical rib; and (4) complete, the rib having become complete and possessed of a true cartilage which unites with the cartilage of the first rib.

The complete cervical rib extends out laterally from the seventh lateral vertebral process for varying distances, then turns forward and downward between the scalenus anticus and scalenus medius to meet the costal cartilage of the first rib. As the rib turns downward, the brachial plexus passes over it; then on its downward course the subclavian artery arches backward and laterally over it. Usually the scalenus anticus has attached itself to the cervical rib as the rib has pushed forward. Still lateral to the rib and outside of the scalenus anticus, arches the subclavian vein, lower than the artery. The muscle lies between the vein and the cervical rib. Above the vein and nearly over the rib, passing transversely across the shoulder, are to be found two branches of the thyroid axis, the suprascapular and transverse cervical arteries. Superior to these arteries, running in the same general direction, is the inferior belly of the omohyoid muscle. The phrenic nerve passes downward along the anterior surface of the scalenus anticus; within the costal arch, usually out of danger, lies the carotid sheath with the common carotid artery, internal jugular vein, and the vagus nerve. Over all these structures, laterally and anteriorly, runs the lower end of the sternocleidomastoid muscle with the external jugular vein passing down its posterolateral border.

If the rib is incomplete, with a ligamentous band to the first rib, the course is very much the same. However, the scalenus anticus is less likely to be attached to the ligament. Shorter ribs are likely to run more laterally. Halbertsma states that if the cervical rib is 5.6 cm. or more in length, the subclavian artery passes over it; if only 5.1 cm. or less, the artery passes over the first dorsal rib. The pleura lies directly under the cervical rib, the pleural cavity having been increased by one intercostal space.

Murphy[24] states that if the rib is long enough, the intercostal space between the cervical rib and the first dorsal rib is occupied by intercostal muscles, and the vein and artery are exactly as in the thoracic intercostal spaces. Todd believes that the scalenes and intercostals are from the same muscle plane, forming two sheets, the outer forming the scalenus anticus and minimus, the inner the scalenus medius and posticus. These sheets of muscles are continued as the internal and external intercostals. The subdivisions of the scalenes are made by the passage of vessels and nerves. The course of the subclavian artery through the scalenes corresponds to that of an intercostal artery through the chest wall.

Occurrence of Cervical Rib with Neuropathies and Congenital Deformities

Bassoe[4] believes that cervical ribs belong to the so-called stigmas of degeneracy, and are features of an underlying neuropathic diathesis. Rosenhaupt[29] states that cervical ribs are found in the progeny of persons with some physical degeneracy. At any rate, other congenital deformities are often associated with cervical ribs. Sherren[31] knows of several instances in which cervical ribs have been removed for symptoms due to syringomyelia. Many cases of the two being associated have been known; Borchardt[6] observed the first. Whitman in 1905 presented a case of congenital deformity with extreme torticollis. Agassiz and Sykes[3] report a case of cervical rib associated with congenital absence of the right thumb and scaphoid. Ballantyne found a fetus with cervical rib, imperforate vagina, and distention of the uterus. McGavin[23] mentions an associated bony mass at the first chondrosternal juncture. Renault and Romme[27] report a case simulating cervical Pott's disease with malformation of the left foot and two nails of the second toe, atrophy of the fifth finger, two supplementary teeth, myopia, and low intelligence. Poland's case was associated with clubfoot. Copher[8] reports a case of cervical rib without deformity of the scapula, but with a bony plate

between the scapula and vertebræ, and spina bifida. Bassoe calls attention to Streissler's mention of cervical rib associated with spina bifida, harelip, cryptorchidism, dislocated lens, clubfoot, congenital lipoma, multiple sclerosis, syringomyelia, and muscular atrophy. No grounds can be found for the opinion of Gaucher and Crouzon[16] that cervical rib is a hereditary syphilitic dystrophy.

Familial Occurrence

Sufficient evidence is at hand to give credence to the statements of Bassoe and Rosenhaupt that cervical rib is an evidence of familial degeneracy. This is again borne out by Thompson's[34] family of sixty-four individuals, representing five generations, of whom seven were affected with wasting of the hands, two of these examined by him having cervical ribs; by Wakeley's[37] patient, whose sister also had cervical ribs; and by Weber's[38] patient with cervical rib, whose brother and sister both had symptomless cervical ribs.

Fig. 1. Surgical specimens of cervical ribs, illustrating the different sizes and shapes under Gruber's classification: *a*, Group 2; *b*, Group 3; *c*, Group 4.

Incidence

Murphy[24] quotes Borchardt's statement that the incidence of cervical rib is 0.03 per cent. Fischel and Prague[14] give the necropsy incidence as 0.1 per cent. Henderson[18], in reviewing 80,000 routine examinations at the Mayo Clinic for five years ending in 1914, found thirty-one cases of cervical rib. Southam and Bythell[32] examined roentgenograms of 2,000 children more than fifteen months of age, and found nine cases of cervical rib. In a study of 250 necropsy subjects, Todd found three cases of cervical rib and one of rudimentary first rib. Pilling in 1894 published an account of 139 cases of cervical rib found at necropsy; in three of these it had caused symptoms.

Bilateral cervical rib occurs in between 67 and 80 per cent of all cases of cervical rib, according to different opinions. In all of Sargent's[30] twenty-nine cases, bilateral abnormal ribs were present. Southam and Bythell[32] found bilateral ribs in all of their cases. Murphy states that but 30 per cent of bilateral ribs that produce symptoms give bilateral symptoms. Complete bilateral cervical ribs are rare. Up to 1907 Keen could find only two cases of complete bilateral ribs with bilateral symptoms. Among Pilling's 139 cases was one of complete bilateral rib.

Two cervical ribs on the same side are extremely rare. Three authentic cases have been reported, one each by Beck[5], Ehrich[11], and Struthers.[33]

Side Involved

The cervical rib is found more often on the left side, but symptoms are more common on the right side. This is because of the greater use of the right arm, because the right plexus is in closer connection with the corresponding rib than the left, and because there is a greater drop of the right shoulder in righthanded persons. In Sargent's cases symptoms were usually on the side of the smaller rib.

Symptomatology

Symptoms are much more common in women than in men. Evans gives the ratio as 3:1, Howell 14:2, Sargent 26:3, and Southam and Bythell 10:2. The preponderance of symptoms in women is hard to explain. Todd believes that the greater movement of the upper part of the chest in women during respiration has much to do with it. Evans suggests that deformities in the neck are more noticeable in women. Childbirth and the greater susceptibility of women to the common causes of onset of symptoms, rapid loss of weight, chronic nervous exhaustion, and general ptosis, are certainly important factors, as is the greater drooping of the shoulder girdle in women.

Onset of Symptoms. Cervical ribs have been recognized in children by the presence of a tumor in the neck. Stiles observed a patient eighteen months of age. A boy, aged seven, was brought to Barling with a complaint of tumor. Murphy and Donaldson thought the most common age was from twelve to eighteen. Beck thought the symptoms were first manifested after the age of twenty; Evans[12] between twenty and thirty. Howell[19] reported ten patients of a series of sixteen to be less than thirty. In a group reported by Sargent the average age was thirty-eight and

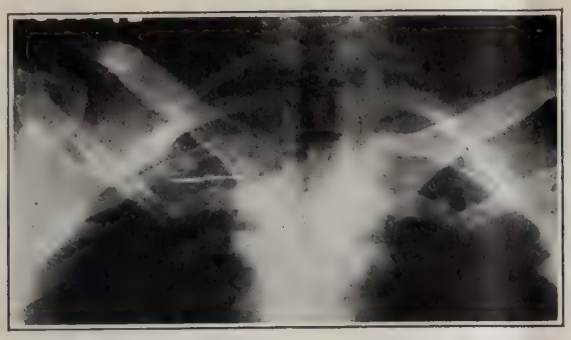

Fig. 2. A completely formed right cervical rib, with symptoms, and an incompletely formed cervical rib on the left without symptoms.

seven-tenths years, the youngest thirteen, the oldest sixty-two.

Characteristic Symptoms. Many symptoms may be attributed to a cervical rib, especially by patients who have been informed of its presence, but the characteristic symptoms are one or more of the following: pain, hyperesthesia, atrophy, motor weakness, disturbances in sensation, and circulatory abnormalities.

Pain is felt along the inner side of the arm, over the distribution of the internal cutaneous, the ulnar, and the median nerves, and, occasionally, over the distribution of the entire brachial plexus. The pain may be sharp and lancinating, and may be brought on by sudden rotation of the head or by a forceful, downward pull of the shoulder. Sometimes it is dull, aching, burning, and boring in character, and occurs during the latter part of the day, after the patient has been working for a time, especially in the case of housewives after sweeping, washing, or dusting. The pain may be associated with hyperesthesia, paresthesia, or anesthesia, depending on the degree of involvement, affecting chiefly the distribution of the middle and lower cervical trunks. This is usually referred to as tingling, burning, and numbness along the inner side of the arm, hand, and fingers.

Atrophy occurs late, and is rarely complete. In 1905, Thorburn[35] reported two cases of atrophy of the intrinsic muscles of the hand associated with cervical rib. Jones, in a series of fourteen cases of atrophy of the intrinsic muscles of the hand, found cervical ribs present in ten on roentgen-ray examination. Wilson[39] finds atrophy to be of two types: the median or partial thenar type, and the ulnar type. In the former there is paralysis of the abductor pollicis, and the opponens pollicis, supplied from the seventh cervical nerve; the remaining thenar muscles are intact. The flexor brevis pollicis is also supplied by the median nerve, but probably from a different segment. The ulnar type, *main-en-griffe,* in which there may be paralysis of all the muscles of the hand except the two just mentioned, is the result of injury of the eighth nerve.

Circulatory symptoms are rarely severe, but they may manifest themselves in a dusky hue of the arm and hand, as compared with the opposite upper extremity, associated with mild trophic changes in the tips of the fingers. Several cases have been reported in which gangrene of one or more fingers occurred. In this event, obliteration of either the radial or the ulnar artery, or of both, usually occurs also. Diminution in volume of the radial pulse is common; the pulse can be decreased or obliterated by having the patient elevate the chin or rotate the head to the affected side while inspiring air. These symptoms vary in degree, according to the amount of pressure over the subclavian artery. Occasionally, the pulsating subclavian may be seen or palpated above the clavicle; occasionally, too, aneurysm of the subclavian is said to occur, but I have not observed it. The presence of Horner's syndrome has been described in cases of cervical rib.

The circulatory changes are caused by constriction of the subclavian artery or subclavian vein, obstruction of the radial and ulnar arteries by emboli from thrombosis at the side of constriction, or possibly by disturbance of the sympathetic innervation. Horner's syndrome may be due to pressure and traction on the inferior cervical ganglion.

Bernhard refers to Fischer's case of choking, and Dejerine reports a case with paresthesia and definite loss of sensation over the distribution

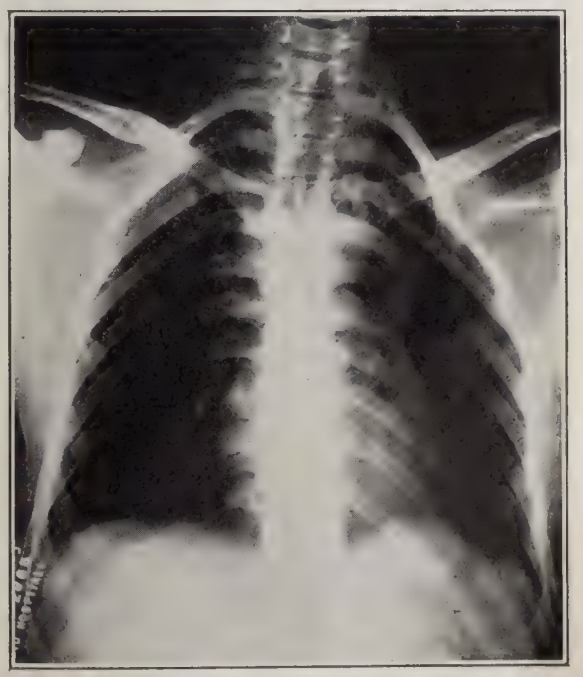

Fig. 3. Completely formed bilateral cervical ribs with symptoms on both sides.

of the fifth and sixth cervical nerves which was relieved by operation. Similar relief was obtained by a patient of mine, a girl, aged nineteen, with an exceedingly long neck and a marked downward course of the brachial plexus, which resulted in mesial displacement of the brachial plexus to the lateral edge of the cervical rib and subjected the entire brachial plexus to trauma by the scalenus anticus muscle. Evans believes that a short rib may lie close to the carotid sheath and produce disturbance of the vagus and of the recurrent laryngeal nerve. In one of the cases in my series there was a reflex cough every ten or fifteen seconds; this I relieved by dividing an anomalous twig from the phrenic nerve. The brachial symptoms were relieved by tenotomy of the scalenus anticus muscle. Garré believes that scoliosis is caused by unequal development of cervical ribs.

Surgical Considerations

Symptoms produced by or associated with the presence of cervical ribs and the pressure of the scalenus anticus muscle should be divided into three groups: (1) indefinite pain in the distribution of the brachial plexus, without circulatory disturbance, in neurotic patients; (2) symptoms produced by anomalies in the supraclavicular triangle similar to those produced by the cervical rib and the scalenus anticus muscle; and (3) definite symptoms directly attributable to cervical rib—(a) brachial pain with sensory or circulatory disturbance sufficient to incapacitate the patient, (b) atrophy of the hand and arm on the affected side, and (c) circulatory disturbance on the affected side without pain or atrophy sufficient to alter or obliterate the pulse by extending the neck or rotating the head.

Fig. 4. The incision employed.

Surgical interference should be advised cautiously when symptoms of the first group are present; very frequently these patients attribute pain to anomalous conditions, and are not relieved by surgical treatment. In the presence of the second group of symptoms exploration should be carried out. If the third group of symptoms is present, operation should be carried out by means of the anterior approach, with division of the scalenus anticus muscle.

The circulatory disturbance may be slight and produce nothing more than a dusky appearance of the skin, or it may be sufficiently severe to produce thrombosis of the radial or ulnar artery, or of both, with gangrene of the finger tips. Since the scalenus anticus muscle in the presence of a cervical rib is capable of traumatizing the subclavian artery to the extent of producing thrombi, surgical treatment should be urged when the circulation is disturbed on the affected side, even if nervous symptoms are mild or absent.

Surgical Treatment

A cervical rib has been removed, generally, by the midcervical or postbrachial approach; the rib has then been removed or resected and such bands divided as might be present after the cervical trunks and the brachial plexus had been displaced forward. This procedure causes considerable traction on the nerve trunks, which too frequently produces obstinate anesthesia and palsy. Moreover, it has been difficult, by means of the posterior approach, to disarticulate complete cervical ribs because of the close proximity of the subclavian artery, which frequently rests on the cervicothoracic articulation.

For these reasons, I employed the anterior, transbrachial approach to the cervical rib, but later learned that it was unnecessary to resect the cervical rib and that sufficient relief was obtained by dividing the tendinous attachment of the scalenus anticus muscle, and permitting the subclavian artery to sag forward over the first portion of the thoracic rib. This produces complete anterior decompression of the subclavian artery and brachial plexus, and relieves not only the traction and the compression on the subclavian artery, but the pressure on the brachial plexus as well. It is more effective than the posterior decompression effected by resection or disarticulation of the cervical rib.

An oblique incision is made for a distance of about 5 cm., extending upward and backward from the sternoclavicular articulation into the posterior triangle. The dissection is carried downward through the fat and the platysma until the tendon of the sternocleidomastoid muscle, with its attachment to the clavicle, is exposed. This is

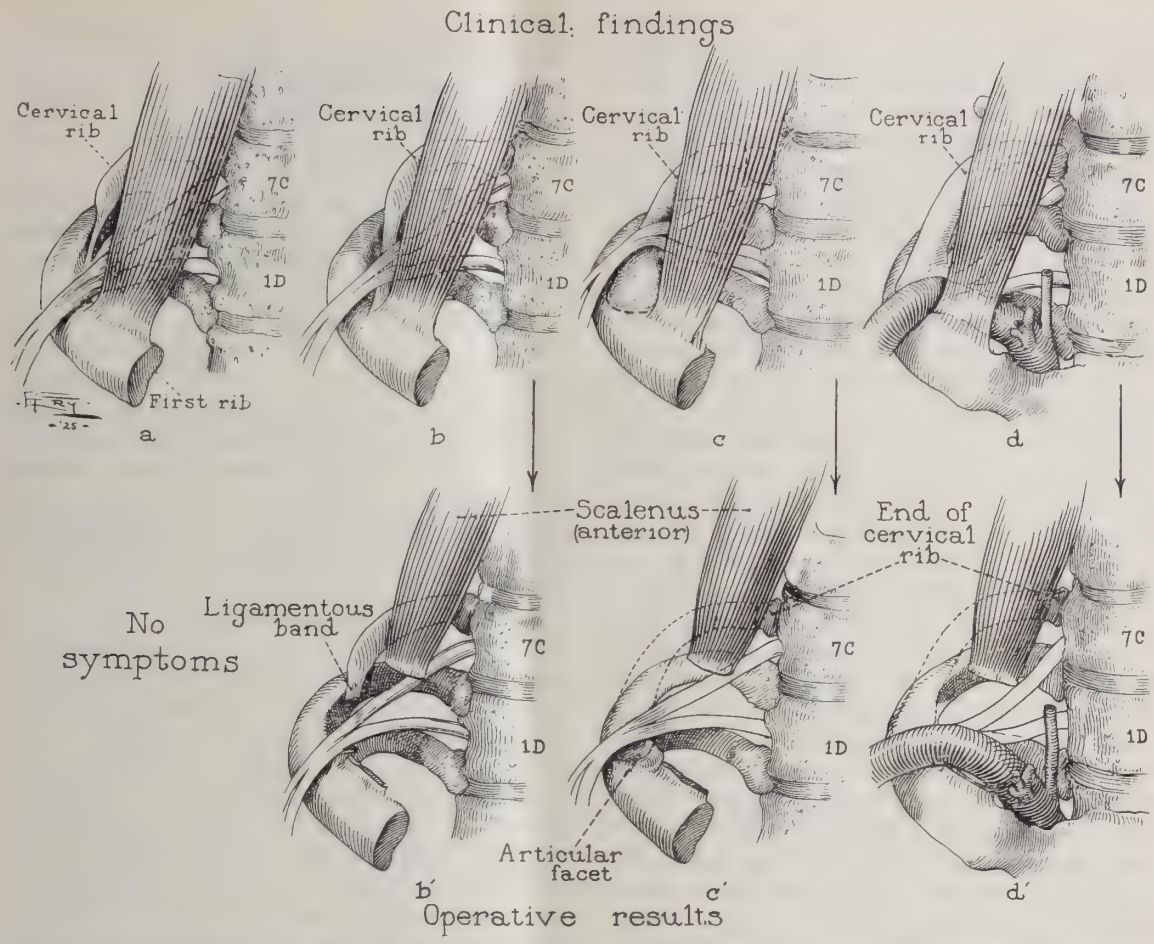

Fig. 5. *a*, The presence of a cervical rib with a fibrous band between the cervical rib and the thoracic rib, without the production of symptoms, due to ample space between the lateral border of the scalenus anticus muscle and the ligamentous band of the cervical rib. *b*, Compression of the lower trunk of the brachial plexus by the scalenus anticus against the fibrous band. *b′*, Relief of compression by tenotomy of the scalenus anticus and division of the fibrous band. *c*, Compression of the lower trunk of the brachial plexus by the scalenus anticus against the completely formed cervical rib. *c′*, Relief of compression by either tenotomy of the muscle or resection of the rib. *d*, Compression of the lower trunk of the brachial plexus and the subclavian artery against the completely formed cervical rib. *d′*, Relief of compression by tenotomy of the scalenus muscle or by resection of the cervical rib.

divided between two forceps: the upper portion is reflected mesially, exposing the tendon of the omohyoid and the tendinous attachment of the scalenus anticus, with the phrenic nerve running obliquely across it from the lateral to the mesial border. The borders of the scalenus anticus are dissected free, and the phrenic nerve is retracted mesially before the tendinous and muscular fibers are divided. The subclavian artery will be seen to present lateral to the scalenus anticus and, if the space between the cervical rib (or the cervical rib and the tendinous bands to the thoracic rib) and the lateral border of the scalenus anticus is narrow, one immediately observes compression of the subclavian artery against the trunks of the brachial plexus. On the mesial side of the scalenus anticus one may observe the pleura and, if the dissection is carried still farther mesially, the carotid sheath and the vertebral artery will be exposed; however, this is unnecessary. It is important to carry the dissection upward along the anterior border of the scalenus anticus for a distance of 5 cm. in order to expose the phrenic nerve thoroughly and dissect it free before retracting it mesially. During the dissection, the transverse cervical and the suprascapular arteries are divided and ligated. Before dividing the tendinous attachment of the scalenus anticus at its insertion, one must bear in mind that the muscle lies over and compresses the subclavian artery, and that the pleura is placed mesial to the inner border of the muscle. Care is necessary in the division of the tendinous and muscular fibers to avoid injury to either the subclavian artery or the pleura. I have learned that if these fibers are divided at the insertion the normal tension of the muscles will tend to retract the divided fibers, thus exposing the undivided fibers as the procedure is carried out. As soon as the scalenus anticus has been divided, the subclavian artery will be seen to drop forward and take on its normal caliber, provided that atheromatous

placques have not already developed, as they had in two of my cases in which gangrene of the finger and thrombosis of the radial and ulnar arteries were manifested.

Comparing the technic of the anterior approach and division of the scalenus anticus with the lateral approach and retraction of the brachial plexus necessary to expose and resect the cervical rib, one appreciates very readily the difference between the two methods, to say nothing about the effectiveness of the two procedures. The former can be carried out with ease and without danger of traumatizing the brachial plexus, since division of the scalenus anticus requires only a small incision and slight dissection, while the latter (resection of the cervical rib through the lateral approach) requires considerable resection and retraction. The wound is closed in much the same manner as any surgical wound, but the scalenus anticus is permitted to hang loose; it will be seen to retract for a distance of 5 cm. If division of the omohyoid tendon is necessary, the tendon should be reunited by suture and ligation, before the clavicular portion of the sternocleidomastoid muscle is resutured, with mattress sutures of chromic catgut. The patient may be permitted to sit up on the day following operation; he may be dismissed from the hospital in three days, and from surgical care as soon as the skin wound has healed. No special treatment is necessary. Pain and paresthesia begin to disappear in a very few days. Atrophy should diminish at the same rate as a nerve regenerates, unless it has existed for several years. In this event it presents the same problem as the repair of a peripheral-nerve injury.

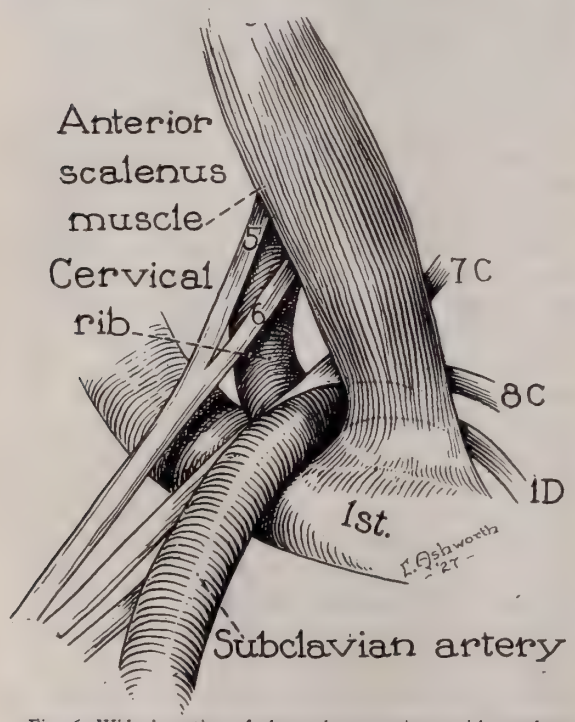

Fig. 6. Wide insertion of the scalenus anticus, with resultant compression of the subclavian artery and inferior and middle trunks of the brachial plexus.

Review of Cases

At the Mayo Clinic between January 1, 1910, and October 1, 1926, cervical rib was diagnosed in 303 cases. This represents a clinical incidence of 0.056 per cent.

Of these patients, 84 were males, and 219 were females. Roentgen-ray examination revealed a cervical rib on the right in 70, a cervical rib on the left in 91, and bilateral cervical ribs in 143. In cases of unilateral cervical rib, there frequently exists a supernumerary costal tubercle on the opposite side, which does not extend beyond the transverse process of the cervical vertebra and is, therefore, not classified as a cervical rib; it would fall, however, in the first group of Gruber's classification.

In 167 of the series (55 per cent.) the presence of cervical ribs was discovered accidentally, there being no symptoms. In 100, although the radiograms were positive, the symptoms were mild and of such a character that surgical treatment was deemed inadvisable. In 77 of the 100 there was indefinite pain in the neck and shoulder, radiating only slightly down the arm and hand; in 5 the pain was localized and radiated along the ulnar nerve; in 2 it radiated along the course of the internal cutaneous nerve; and in 4 it radiated definitely over the brachial plexus, but was not severe. In 12 cases the pain was exaggerated by rotation of the head, or by elevation of the chin. Slight atrophy was observed over the ulnar distribution in 12. Subjective anesthesia was present in the ulnar distribution in 7, that of the internal cutaneous in 2, and in the brachial distribution in 4. Circulatory disturbance was present in four. The patients presenting slight atrophy and subjective anesthesia will seek surgical interference, no doubt, sooner or later.

Surgical Cases

Surgical treatment was carried out in 41 cases; there were 11 males and 30 females. In 18 cases the symptoms were confined to the right side, in 18 to the left side, and in 5 they were bilateral. Diffuse, darting, and aching pain was present over the brachial distribution in 27; in 24 the pain radiated definitely over the ulnar distribution, and in 20 over the internal cutaneous nerve. Subjective or objective sensory disturbance was present in the brachial distribution in 10, in the ulnar in 13, and in the internal cutaneous in 7. Atrophy was present in the ulnar distribution in 8, and circulatory phenomena, consisting of vaso-

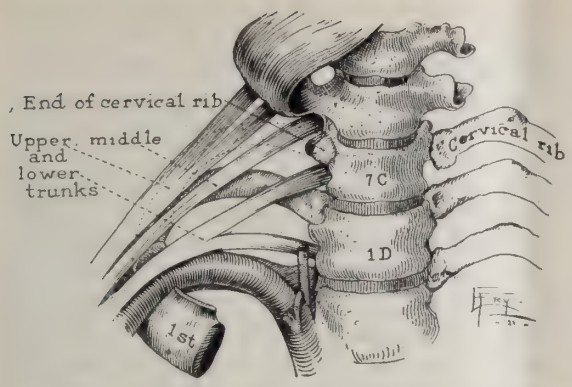

Fig. 7. Illustrating the relief from compression of the lower and middle trunks of the brachial plexus, and the subclavian artery, with recession of the subclavian artery, following tenotomy of the insertion of the scalenus anticus.

motor changes, cyanosis, trophic disturbances of the finger tips, and impaired pulse volume on the affected side in 16. In 2 cases gangrene had affected the finger tips. The pain in the shoulder and the arm was occasionally relieved by elevation of the shoulder on a pillow.

The transcervical approach, posterior to the brachial plexus, was used in 23 cases; the anterior approach was used in 18 (24 operations). In 10 of the patients (12 operations) operated on by means of the anterior approach the scalenus anticus muscle was divided and the cervical rib was removed; in 8 (12 operations) only the scalenus anticus muscle was divided.

Fay stated that, in cases of cervical rib, he had employed the anterior approach as advocated by the author with division of the scalenus anticus to release the pressure from in front, and had found it a splendid procedure with good results. Carroll[7] stated that he, too, had followed the procedure as advocated by the author in a case in which brachial symptoms were associated, not with a cervical rib, but with a high-lying thoracic rib and a marked operculum at the attachment of the scalenus anticus. On exploration, it was found that the scalenus anticus had compressed the subclavian artery; the artery was markedly angulated at the lateral border of the scalenus anticus, which had, in turn, produced, by indirect pressure, angulation of the brachial plexus. After performing tenotomy of the scalenus anticus, he was able to free the subclavian artery and the brachial plexus and subsequently to relieve the symptoms.

Complete relief from symptoms was afforded in 31 cases, and partial relief in 4. Failure of relief was reported in 6 cases. Of the 6 failures, the anterior approach was followed in one case. In this case, the rib was completely removed, and the persistence of symptoms was due probably to the fact that many of the indefinite pains of the neck and shoulder were not caused primarily by the presence of the cervical rib, especially since the nervous system was unstable and many other symptoms were complained of.

The postoperative course in 8 of the cases in which operation followed the posterior approach was complicated by numbness, and in 4 by slight palsy. In 2 of the cases in which the anterior approach was followed, the pleura was accidentally opened to the size of a pin point, but sufficiently to produce partial pneumothorax. While this accommodated itself in a few days, it was of sufficient moment to warn the surgeon of the possibility of injury to the pleura when dividing the scalenus anticus muscle, as the pleura frequently extends into the supraclavicular triangle in cases of cervical rib.

In 2 of the cases of bilateral cervical rib, there were marked symptoms on the right side. Both of these patients were men, and both were laborers, one aged 34 and the other 33. In both there was gangrene of the fingers; in one it had affected the third and fourth fingers, in the other the second and third fingers. The subclavian artery in both of these cases was found to be markedly compressed, remained kinked, and failed to dilate after division of the scalenus anticus muscle. Due to the changes in the wall of the artery, the vessel felt calcareous and pipe-stem-like. In both cases the anterior approach was followed.

In one of the cases the radial and ulnar pulse were perceptible, but were greatly reduced in volume. Prior to the patient's dismissal, following removal of the cervical rib, it was deemed advisable to amputate the tips of two gangrenous fingers.

In the other case not only was the subclavian artery sclerosed, but the radial and ulnar pulses were obliterated. The immediate convalescence following division of the scalenus anticus muscle and resection of the cervical rib was uneventful. After primary union of the wound, the patient was dismissed from the hospital. The operation was performed June 30, 1925. July 9, after having been dismissed from the hospital, the patient suddenly experienced a severe pain in the neck, in the region of the wound, and an extensive hematoma was discovered underneath the skin. The wound was promptly opened, and the subclavian artery was found to be bleeding profusely. Bleeding was controlled by the use of a muscle slab over the opening in the subclavian artery and by packs until July 15, when a second hemorrhage occurred. The subclavian artery was then exposed and ligated, but the patient succumbed later to the effects of the hemorrhage despite transfusion and other emergency measures.

Cause of Symptoms

Todd believes that the symptoms are due to the diminished obliquity of the thoracic operculum and the distance of the inner border of the first rib from the median line of the body assisted by the relative widening of the shoulder girdle, the growth of the clavicle, and the sinking of the shoulder girdle. His original statement in 1911, "Arterial symptoms are caused by the action, directly by the scalenus and indirectly by the diaphragm, on an artery with a further and more tortuous course to pursue," was modified in 1912 when he asserted that the contracting scalene muscles cannot compress the subclavian artery. He further stated: "The vascular symptoms occurring in cases of so-called cervical rib are not mechanical in origin, but are trophic in character and are caused by paralysis of the sympathetic fibers passing to the vessels. The same nerve which supplies the skin and muscles supplies the vessels, and hence trophic changes occur in the same area in either vessels or muscles or skin."

It is difficult to explain on one hypothesis: (1) the compression of the artery (which is observable at operation and is not to be attributed to formalin fixation of the cadaver); (2) diminution of pulse volume in the vessels of the affected arm; (3) cyanosis of the skin of the affected arm (in some cases); (4) variability of this pulse volume and cyanosis when the scalene muscles are put on tension by suitable movements; (5) pathologic changes in the subclavian artery where it crosses the anomalous rib; (6) pathologic changes in distal arteries and arterioles; and (7) gangrene of the fingers.

Clinically, I was able to demonstrate the influence of the scalenus anticus by having the patient elevate the chin and extend the neck or rotate the head to the affected side while taking a deep inspiration; this produces paresthesia over the distribution of the brachial plexus and, frequently, obliteration of the pulse at the wrist on the affected side. This was well illustrated in the case of a railroad engineer who complained of paresthesia in the right arm, chiefly over the distribution of the ulnar and median nerves, in conjunction with cyanosis of the arm and hand. These symptoms were initiated when, at work, he was compelled to look backward through the cab window; if it was necessary for him to do so for any appreciable length of time, the right hand and arm became so numb and weak that he was unable to use them. The arm also became more cyanosed.

When it is considered that the subclavian vein is beyond the field of possible compression by the scalenus anticus, Todd's argument concerning the influence of disturbance of the sympathetic innervation seems essential to the explanation of the symptoms, especially the cyanosis. It is impossible to concur in his opinion, however, that this disturbance amounts to paralysis, in the face of the alterability of pulse volume and cyanosis by such clinical tests as are described above. If he is justified in attributing the pathologic changes in the distal vessels to disturbance of sympathetic innervation, and if the histologic picture which he has described can be observed with any constancy in cases of cervical rib, a clearer light will be thrown on the cause and nature of thrombo-angiitis obliterans.

However valid the hypothesis of disturbance of sympathetic innervation, I believe that insufficient emphasis has been placed on the influence of the scalenus anticus which produces compression of the subclavian artery on the brachial plexus against the cervical rib. During the height of muscular development, the belly of the scalenus anticus compresses the subclavian artery and the lower trunk of the brachial plexus to a greater degree than during childhood or the later periods of life. This, I believe, accounts for the symptoms during this period. It is true, also, that during this period of life the greatest physical efforts are carried out and a greater strain is placed on the shoulder. This, in turn, causes the shoulder girdle to drop. This explains the greater frequency of right-sided symptoms in the presence of bilateral ribs, inasmuch as most people are right-handed and tend to lift the heavier weights with the right hand.

The infrequency of symptoms in the presence of cervical ribs is explained, I believe, by an additional factor which I have observed in the exploration of cervical ribs with reference to the tendinous insertion of the scalenus anticus. In cases associated with circulatory disturbance and brachial symptoms, insertion is invariably wide, the muscle being reflected laterally beyond the operculum to and on to the cervical rib. This narrows the space between the lateral border of the scalenus anticus and the cervical rib, and

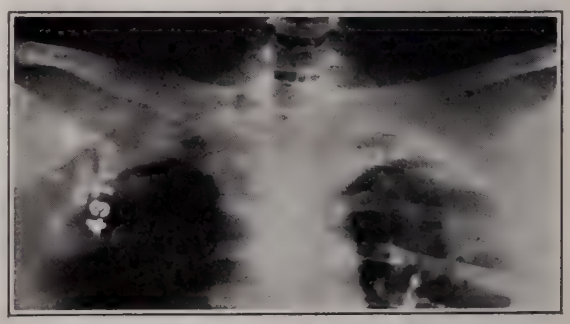

Fig. 8. Completely formed right cervical rib presenting an articular joint in the middle, and an incompletely formed cervical rib on the left. In this case the symptoms were right-sided, and were associated with reflex cough.

accounts for the pressure symptoms. In the absence of symptoms, the insertion is found more mesially in a narrower band, and a wider space is thus afforded between the lateral border of the scalenus anticus and the cervical rib. It is obvious that if the rib takes a wide, lateral course before it turns forward and downward, the space between the rib and the scalenus anticus is ample for the descent of the subclavian artery on the lower trunk of the brachial plexus without pressure. The observations which I have made have been facilitated, perhaps, by the anterior method of approach, which I have followed for exposure of the brachial plexus.

To support my opinion concerning the influence of the scalenus anticus in compression of the subclavian artery and the inferior and middle trunks of the brachial plexus, I present the following case:

The patient was a housewife, aged 53, and the mother of four children. The medical history was negative except for the current complaint, which had begun one year before, of pain in the posterior cervical triangle, with radiation to the shoulder. For four weeks previous to admission, a spontaneous, hacking, reflex cough had been occurring every few seconds.

The physical examination, the laboratory tests, and the neurologic investigation were negative except for symptoms referable to the complaint. A cervical rib could be palpated on the right. A bruit was present over the right subclavian artery. The pulse in the wrist was interrupted by extension of the neck in conjunction with inspiration; this also caused exaggeration of the pain and of its radiation into the arm. The roentgenogram revealed bilateral cervical rib. On the right the rib was completely formed and jointed; it was incompletely formed on the left. The possibility of aneurysm was ruled out by physical and radiologic examination. Exploration of the right cervical rib was advised. The patient was informed in advance that probably two operations would be necessary, since it was intended only to divide the scalenus anticus muscle at the first operation and to remove the rib at the second operation, if the symptoms persisted.

During exploration of the scalenus anticus by means of the anterior approach, it was observed that, although the phrenic nerve took its normal course, there was an additional branch which turned obliquely outward at a point 5 cm. above the costal attachment of the scalenus anticus, crossed the subclavian artery, and was adherent to it just lateral to the scalenus anticus. This branch was slightly smaller than the usual size of the phrenic nerve and extended from a mass of adhesions over the subclavian artery in the subareolar tissue above the clavicle, apparently as one of the supraclavicular sensory nerve fibers. In all probability it was a continuation of the third or the fourth cervical sensory fibers. The anomalous nerve was resected, the phrenic nerve being left undisturbed, and tenotomy of the scalenus anticus at its insertion on the thoracic rib was performed. Following this, the subclavian artery and the two lower trunks of the brachial plexus were dissected free. The rib was prominent behind the brachial plexus, but immediately on division of the scalenus anticus there was no further pressure either on the vessels or on the nerves, and the wound was closed expectantly without removal of the cervical rib. The reflex cough was relieved completely and all pain in the neck, shoulder, and arm disappeared. The patient was dismissed after an uneventful convalescence, without removal of the cervical rib.

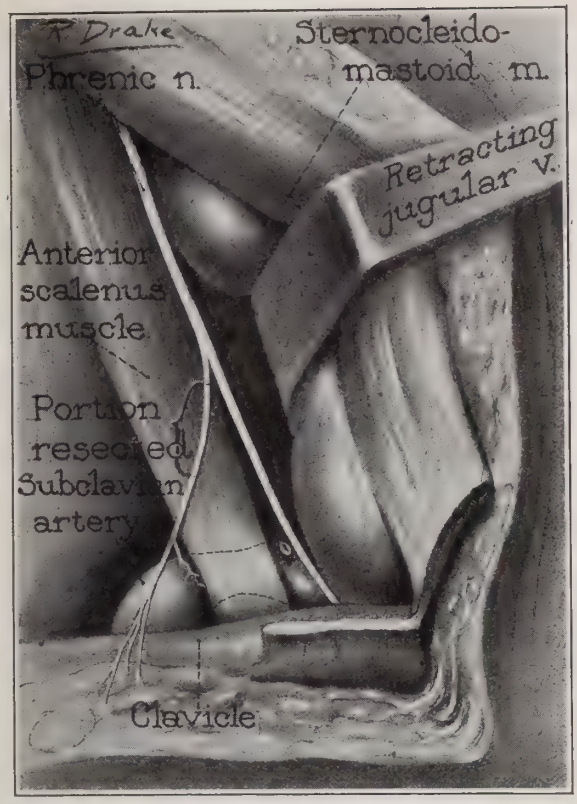

Fig. 9. In this case brachial and vascular symptoms were relieved by tenotomy of the scalenus anticus muscle, and the reflex cough by resection of the anomalous sensory branch of the phrenic nerve.

In view of the gratifying result obtained in this case, I have since followed the same procedure in seven cases in which symptoms were referable to a cervical rib. The results have been as good following simple division of the scalenus anticus as they were after removal of the cervical rib, and trauma to the brachial plexus was avoided. Therefore, I feel justified in advocating the anterior approach and division of the scalenus anticus without removal of the cervical rib.

CONCLUSIONS

In about 55 per cent of the cases reviewed in our series, the cervical ribs produce no symptoms.

Patients with cervical ribs without symptoms should not be informed of the accidental finding, as this may give rise to neurosis with symptoms referable to the rib.

The surgical indications depend directly on the degree and the type of the incapacity produced by the presence of pain, hyperesthesia, anesthesia, and circulatory disturbance. Surgical

treatment should not be advised for mild, indefinite pain in the neck and shoulder.

The anterior approach and tenotomy of the scalenus anticus are preferable to the transcervical approach and resection of the cervical rib, since the same relief is offered, the procedure is less formidable, and postoperative numbness in the arm and palsy of the brachial plexus are avoided.

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Symposium on Cancer of the Rectum*

SYMPTOMS OF CANCER OF THE RECTUM

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After the stomach, the rectum is that division of the human alimentary canal most frequently affected with cancer; but the rectum, unlike the stomach, is readily accessible for examination, and it may be explored in its entirety by the examining finger, or by an ocular examination, and a tumor in any stage of its development may be readily seen or felt. That this disease affects the extreme proximal and distal ends of this tract more frequently than the other divisions is a curious fact. The ratio has been collected from a number of sources, and on an average it may be stated that it is about 8 to 3.

The fact that cancer develops most favorably in an acid medium is in harmony with these data. The stomach contents are strongly acid, but the reaction of the acid chyme is abruptly changed to alkaline in the first portion of the intestine. This alkaline reaction in turn is gradually lessened, and becomes faintly acid by the time the fecal residue reaches the rectum.

About four per cent of all cancers are rectal cancers. Mandl of Hochenegg's Clinic has placed the estimate at 16 per cent. This is a personal estimation, due to the fact that this clinic has a reputation for success in dealing with this disease, and a larger number of rectal cancers are attracted there. There are more than 3,000 deaths in the United States each year. There is a relative yearly increase due to better diagnosis, and a real increase due to the growth of population.

The incidence of cancer in the sexes is about equal. Probably a few more males are affected

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than females. No reason has been found for this difference.

Youth and old age are liable to its ravages. Allingham's famous case of a boy aged 13 years was for a long time a record. Since then, an Italian observer has reported a case of cancer of the rectum in a boy of 11 years. Miles successfully performed a colostomy to relieve colonic obstruction caused by cancer of the rectum in a man of 95 years of age. In our personal experience we can recall rectal cancers in a youth of 20 and a man of 76 years. Statistics show the incidence to be greatest in the fifth decade of human life. These age references have been made merely to call attention to the inaccuracies of the usual textbook descriptions of the so-called cancer age.

The earliest symptoms of rectal cancer should be clearly understood and recognized. In its origin and in its early stages this disease might be easily overlooked; it may exist for months before exhibiting symptoms pronounced enough to arouse suspicion in the mind of the victim. It usually develops in a quiescent way, and a well-developed cancer may be discovered accidentally, while the individual had never noticed anything wrong. Careful history-taking will usually bring out the fact that the individual suffering from this disease will recall having had an unusual but definite and obstinate attack of constipation, having been regular in his bowel habits previously. This functional derangement of the bowel does not respond to the ordinary treatment for constipation. The ordinary laxatives have little effect except to produce a few unsatisfactory stools or the passage of flatus and mucus. One of our patients, aged 21 years, a bride of four months, was found to have an inoperable rectal cancer when first seen. She reported that she had once taken four drops of croton oil at one dose, without obtaining a bowel movement.

It is not unusual, on exploring the abdomen of a patient with rectal cancer to find that the colon is heavily loaded with feces, even though special efforts had been made to have a complete preoperative evacuation, either by giving laxatives or by repeated irrigations. The tumor does not obstruct at this stage, and the usual abdominal symptoms which are generally present during the last stages of the disease, when the bowel may be definitely obstructed by the tumor, are rarely noticed. The nervous mechanism of the bowel is disturbed in some way by the growth, so that the peristaltic wave is interrupted. This has not been satisfactorily explained, as few patients are seen in this so-called precancerous or quiescent stage. Close questioning will invariably develop such a history in the rectal-cancer patient, and I consider it very important. If, then, a patient who has always been regular in his bowel habits seeks relief from an unusual and obstinate constipation, a thorough rectal examination is strongly indicated, as it is very likely that an early cancerous tumor of the rectum will be discovered.

Three to six weeks after the latent constipation period has passed, a more pronounced symptom is observed. This is diarrhea, slight at first, but increasing rapidly until ten to twenty stools may be passed daily. The first passage in the morning usually consists of liquid feces, mucus, and some flatus. The desire to defecate comes on immediately on arising. It is often aggravated by the taking of food. It seldom occurs at night. As disintegration of the tumor progresses, mucus, necrotic material, pus, and blood in varying amounts, all with a particularly offensive odor, will be observed. The odor has been described as offensive, disgusting, gangrenous, fetid, and putrid. There is nothing quite like it. It is *sui generis*. None of these frequent stools leave the patient with a satisfied feeling. There is rather a feeling of something remaining in the rectum, an incomplete defecation—"unfinished business," as one of my patients expressed it.

Pain is not a prominent symptom of cancer up to this time. This is unfortunate. If pain were an early symptom, the victim would seek relief before deep infiltration and metastasis had taken place, and the possibility of a cure would be more likely. As the diseased area ulcerates more deeply, the discharge increases, and heavy, aching, dragging pains are described. These may be due to perirectal inflammation, or to involvement of the deep urethra, seminal vesicles, or bladder in the male, and of the uterus and vagina in the female. The left ureter may be involved early, resulting in hydronephrosis. The anterior branches of the sacral nerves become involved, and pain is referred throughout the entire distribution of this plexus. Anemia, loss of appetite and weight, toxemia, profuse discharge, and pain, with possible hemorrhage, are the late or the textbook symptoms of the hopeless condition of the patient, and are of very little or no interest to the surgeon. They have interest only to the pathologist. Jaundice, with enlarged liver, vomiting, and delirium usually close the picture. In one patient, we noticed a liver enlargement even before diarrhea had been complained of.

There are three locations of rectal cancer to be noted. These are the rectosigmoidal junction, the rectal ampulla, and the anal canal.

When cancer affects the rectosigmoidal junction, it is usually the constricting type of tumor, completely surrounding the bowel. It is the

same type as usually affects the colon, where obstruction is the first and perhaps the only symptom of the tumor. Bleeding with defecation is a common symptom of cancer at this location. Symptoms of obstruction usually follow shortly.

The ampulla of the rectum is the division most commonly affected. Here the tumor develops, beginning on the posterior wall and extending laterally around the bowel, but rarely ever completely encircling the bowel, and hence, never producing obstruction.

The anal canal is the only division supplied with spinal nerves and controlled by sphincters. When it is affected, pain, bleeding, and stenosis are early symptoms. The pain may be mistaken for that caused by an anal fissure. Severe pain occurs at time of defecation. Each painful period is longer than the preceding one, and in a short time the pain becomes continuous. Metastasis occurs early, and the daughter tumors are usually palpable in the anterior inguinal lymphatic glands. The tumor is invariably found to have its starting point at the anterior position, and usually progresses to surround the canal completely.

Most rectal cancers are of the adenomatous type. They are circular, flattened, hard tumors, which increase in size, preserving the circular form, and eventually encircle the lumen of the bowel. They metastasize early, and the tumor grows mushroomlike. The daughter tumors may be widely disseminated in the rectal glands and in the mesentery, and in the entire distribution of the portal venous system. As the tumor widens, degeneration and necrosis begin in the center and advance rapidly, forming an ulcer which produces the symptoms we have described. The ulcerated area widens and deepens; the edges become nodular, and are always hard.

Another type of adenocarcinoma is characterized by edema or swelling of the connective tissue and epithelial elements with a mucinoid material, producing tumors of large size but much softer. These are the colloid cancers. These, too, metastasize early. When necrosis and ulceration occur, the discharge is more voluminous, and the breaking-down process occurs very rapidly.

A third type of adenocarcinoma is the malignant papillomata, so-called. This is a cauliflower tumor, very bulky, which grows by extension and infiltration, but metastasizes late. It is characterized by a profuse, mucous discharge, and sometimes by obstructive symptoms due to its enormous size. The lymph nodes found in connection with this tumor are usually inflammatory and not metastatic tumor deposits.

Of other abnormal conditions in the rectum or distal colon producing symptoms which may be confusing, hemorrhoids and ulcerations require consideration. Hemorrhoids are the most common of all rectal abnormalities, but the symptoms exhibited are clear-cut and well-nigh pathognomonic. They are always present. The passage of bright blood without pain at the time of stool by one who has been constipated for a long time, by a man who has done heavy lifting, or by a woman who has borne children, is indicative of the presence of internal hemorrhoids. Hemorrhoids, too, may coexist with cancer.

Ulcerations in the rectum or the distal colon present symptoms which may be easily confused with cancer. In the former case, the onset is usually sudden, following a general acute infection, or an infection of the intestine, or an attack of ptomaine poisoning. The dysentery will be severe at the onset. It will probably be as disturbing at night as in the day periods. It is aggravated by the taking of food, the normal gastrocolic reflex being much exaggerated. Colicky pains are always present. The desire to defecate is irresistible, and fecal incontinence is common. This is due to exaggerated peristaltic pressure, and not to relaxed sphincter muscles. Poor mouth hygiene with pyorrhea and decayed teeth are frequently seen in patients who have ulceration of the colon or of the rectum.

To repeat, when a patient who has always been regular in his bowel habits reports a sudden or an abrupt onset of constipation which is inexplicable to him, and which is not relieved by the usual dose of his customary cathartic, he should be urged to have a complete bowel examination, as a tumor in an early stage will usually be detected. The increasing dysentery, the frequent desire to defecate, the unsatisfied feeling after defecation, followed chronicologically by the long list of textbook symptoms, should help to make the diagnosis from symptomatology alone fairly easy.

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DIAGNOSIS OF CANCER OF THE RECTUM

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Progress in combating carcinoma lies chiefly in the direction of earlier recognition, and it is this phase which should be emphasized. The larger number of the earlier cases are not difficult of diagnosis, and we must endeavor to arouse the attention of the attending physician to the significance of the symptoms in the early and remediable stage. By the early stage is

meant that period before the disease extends beyond the wall of the gut. The classical textbook symptoms are largely of the later stage, and progress demands the ability to make a diagnosis when the earliest symptoms appear.

As the increase of this disease is so marked, the profession is awakening to the realization that its best efforts must be put forth to combat it. It is most important to revise current ideas of symptomatology, and to arouse the suspicion of the attending physician as to the cause of the symptoms of the early stage.

Of every five cases of carcinoma in the intestinal tract, over four are in the rectum or at the rectosigmoidal junction; this means between 80 and 90 per cent. Four to five per cent of all malignant tumors are carcinoma of the rectum. The onset is gradual in three-fourths and sudden in one-fourth of these cases.

There is no one pathognomonic symptom. Constipation is the symptom most frequently noted in the early stage. This is followed by bleeding, which may be pure blood alone, or blood mixed with mucus and flatus, and develops later into the so-called "cancer diarrhea." Pain is an early symptom when the growth involves the anal canal, or when it is an epithelioma. Indigestion with nausea is a frequent early symptom, and abdominal discomfort when assuming certain positions, such as the prone, or reclining, is another; also rectal discomfort of any degree, which may be continuous or interrupted; and flatus with stool, with or without mucus, accompanied by a sensation that the bowel movement has not been completed.

Rectal bleeding is the symptom which has been responsible for a great number of the mistakes made in the diagnosis of early cancer. This because digital examination of the bowel was not made. The physician's first thought in association with rectal bleeding usually is hemorrhoids. An invariable rule must be made that bleeding from the rectum calls first, last, and always for a digital examination.

Any sustained change in the bowel function should at once claim attention. One of the most important of these functional changes is a progressive severe constipation. This symptom may persist for a time, then the bowel action may return to normal, and the patient express a well-being not known for months. Do not be deceived by such a change, for this sequence is not rare in carcinoma of the lower bowel. Loss of weight cannot be relied upon as an early symptom. It usually occurs after the first stage, and in some cases patients will gain in weight after the disease has progressed beyond the first stage. A persistent diarrhea which does not yield to bacillary or amebic treatment is strongly indicative of malignancy.

Predisposing causes are adenoma, anal fistula, fissure, hypertrophied papillæ, hemorrhoids, polyps, strictures, and ulcers (tuberculous and syphilitic.)

In making a diagnosis, the first step should be an examination by palpation with the gloved finger, preferably with the patient in the squatting position. Any variation felt from the soft, smooth, normal mucosa should lead to a visual examination through the sigmoidoscope.

The diagnosis may be confused by benign tumors, inflammatory processes in the rectum or in the surrounding pelvic structures, syphilitic ulcers and strictures, tuberculous ulcers or growths, amebic dysentery, diverticulitis, polyps, multiple adenomata, carcinoma primary in the prostate gland in the male, and in the female by a sharply anteflexed cervix which may simulate early carcinoma. Pelvic examination and the history will help to differentiate. The benign tumors can be diagnosed by the use of the sigmoidoscope.

In syphilitic strictures and ulcers, tuberculous ulcers and growths, and adenomata, a biopsy should be done to differentiate or to discover if there has been malignant change. This procedure, when properly done, is not dangerous. When taking a laboratory specimen of a growth, it is well to take more than one, for it is not unusual to find that malignant change involves only certain areas in a growth.

Benign tumors usually project into the lumen of the bowel, are soft, have pedunculated or sessile bases, but are never indurated, nor do they invade the surrounding tissues. Malignant tumors originate in the mucous-membrane coat, are more or less firm to the touch, and may involve several square inches of the surface. In the early stage they project only slightly above the surrounding healthy membrane.

All growths with broad infiltrating bases should be considered malignant. Scirrhous cancer, when seen early through the sigmoidoscope, presents itself as a localized area. The induration of the tissue can be felt by pressing the end of the 'scope upon it. A medullary cancer breaks down or ulcerates early. It may occur at more than one point, and the mucous membranes become riddled with ulcerated areas. It extends deeper into the surrounding tissues than the scirrhous form, and the edges are raised, giving it a craterlike appearance.

A Wassermann test should be made in every case of tumor, stricture, or ulcer of the rectum. Yeomans reports a series of 110 cases in which he found 7 positive Wassermann reactions. The

simultaneous occurrence of syphilis and cancer, therefore, is not rare, and the physician should be on guard lest he mistake cancer for syphilis of the rectum, as cancer may develop on syphilitic soil.

The x-ray may be of assistance in certain of these cases for the purpose of differentiating, and its use should be borne in mind, but much dependence should not be placed upon it in early cases of uncomplicated carcinoma.

The writer lists the procedures mentioned in order of importance as follows: palpation by gloved finger, sigmoidoscopy, biopsy, Wassermann test, and use of x-ray.

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THE CHOICE OF OPERATION IN CARCINOMA OF THE RECTUM

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The attention of the profession and of society in general is becoming more and more fixed upon cancer. The activities of state departments of health, of research centers, of special committees of the profession, and of the American Society for the Control of Cancer are bringing about an appreciation of the extent of the menace, and free and frank discussion is promoting a general understanding of both the nature of the disease and the means of prevention and cure so far as they are now known. The layman is beginning to perceive the difference between early and late recognition and treatment, as he long ago learned this lesson in connection with acute appendicitis and many other surgical emergencies. There is credit for early action and blame for delay.

Of all the common sites of cancer, none is more important, or more neglected, than the rectum. It is the last of the great common varieties of carcinoma to be subjected to intensive rational development along the approved lines of cancer surgery. At last, however, we may fairly say that cancer of the rectum is one of the most amenable to cure of all varieties of cancer, that satisfactory operations are available, and that the results, even including the once dreaded and frequently necessary colostomy, are highly satisfactory to the patient. At the same time, it must be recognized that radical operations of this class are highly developed technical procedures, and are not for the occasional surgeon without special experience. The chief causes of failure in the past have been, first, sepsis and its complications, which are responsible for the bulk of the immediate mortality, and second, insufficient removal of contiguous and related lymphatic tissues, which invites recurrence.

The greatest aid in the reduction of severe septic complications has been the two-stage operation. By means of the preliminary colostomy, the rectum and lower sigmoid are thrown out of function. This permits cleansing of the lumen, reduces perirectal inflammation, allows the lymphatics to dispose of their bacterial content, raises the resistance of the patient, and disposes of the difficulties of bowel function during the immediate postoperative period of the second stage. Also, by dividing the operation into two periods, it imposes less strain upon the general vital functions, and by the information gathered during exploration enables the surgeon to decide upon the operation best suited to the condition present. The two-stage operation, with preliminary abdominal colostomy, may be regarded as standard. The expert may at times for good reason violate this principle, the less experienced, never. The sacral anus has been discarded as less satisfactory than the abdominal anus except in Germany, the land which gave the impetus to the modern treatment of this disease through the development of the Kraske operation.

The colostomy which I have found most satisfactory is a simple one. Complicated methods rarely work well, and often introduce undesirable complications. I prefer to place it just external to the left semilunar line in the waist line. Here the opening is well away from the umbilicus, the hairy areas, and the bony prominences. The liability to obstruction is less than in a colostomy more centrally placed. The colostomy cup can be made to fit well and comfortably, and the skin is most easily kept clean. The external oblique muscle runs downwards and inwards, the internal oblique, upwards and inwards, and the transversalis, transversely. The skin incision is slightly oblique, and the muscles are split in the line of their fibers. If exploration and preliminary intra-abdominal liberation of the bowel have been carried out through a rectus incision, the colostomy is made through a small separate incision in this location before closing the rectus incision. If exploration and colostomy only are performed at the first stage, the colostomy incision may be made large enough to admit the hand and then must be partly closed.

The greatest interest and divergence of opinion attaches to the decision as to the amount of bowel, surrounding tissues, and mesosigmoid which should be removed, and the methods of ac-

complishment. General agreement is taken for granted that the greatest number of ultimate cures can be obtained here, as in other varieties of cancer surgery, only by the widest possible removal of tissue immediately related to the growth, together with the regional zones of lymphatic spread. Miles has clarified the situation by defining three such zones, the downward, the lateral, and the upward. The downward zone comprises the perianal skin, the ischiorectal fat, and the external sphincter. The lateral zone embraces the levator ani muscles, the retrorectal lymph glands, the internal iliac glands, the base of the bladder, and the seminal vesicles in the male, and in the female, the posterior wall of the vagina, the cervix, and the base of the broad ligament. The upward zone takes in the pelvic peritoneum on either side of the attachment of the pelvic mesocolon, the pelvic mesocolon in its entirety, the paracolic lymph glands, and the group of glands situated at the bifurcation of the internal iliac artery.

The downward and lateral zones and the lower portion of the zone of upward spread are readily accessible from below, exposure being obtained by means of removal of the coccyx. I should say parenthetically that it is a surgical possibility to remove all the zone of upward spread from below if adequate exposure is obtained by removal of a portion of the sacrum. Hochenegg, of Vienna, whose personal experience in this work is the greatest in the world, still follows the modified Kraske method, and is able in many cases to excise as much of the sigmoid and descending colon as would answer all theoretical requirements. The disadvantages of the procedure are the inability to make a preliminary exploration of the abdomen, especially the liver, for metastasis, and secondly, the markedly inferior results of the lumbar colostomy as contrasted with the abdominal anus. It is certain also that such extensive procedures by the sacral route will entail an even higher mortality than the division of the operation into an abdominal and a perineal stage. If it were satisfactory to remove only those structures readily accessible from below, the operation would be simplified. But Miles, Quénu, and the majority of the French school maintain that the upward zone is the most important of the three. The work of the older anatomists on the lymphatic supply of the lower bowel, notably Sappey, Gerota, Quénu, Cuneo, and others, seems to substantiate this view, and more recently the researches of Villemin, Huard, and Montagné show conclusively that the main lymphatic channels follow the lines of arterial supply, and that some lymphatics may pass without interruption from the lower rectum to glands in the neighborhood of the promontory of the sacrum. Owing to the anatomy of the blood supply, this upper region cannot be dealt with from below, and we are confronted with the fact that if what Cuneo has called the first barrage of glands is to be removed *en bloc* with the tumor, in order to conform to the general principles of cancer surgery, it is necessary to add an intra-abdominal step to the procedure.

This is the genesis and *raison d'être* of the combined abdominoperineal operation associated especially with the name of Quénu and developed in this country particularly by Jones, and more recently by Coffey. In this type of operation the first stage is abdominal. The liver, the pelvis, and other regions of the abdomen are carefully explored for evidence of metastasis. If the case is considered operable, the next step is to liberate the sigmoid and upper rectum, together with their mesenteries and surrounding tissues, from all connection with the other abdominal and pelvic walls and structures. These remain attached only at their upper and lower extremities. The blood supply must be conserved according to the principles laid down by Sudeck. The operation may be terminated at this point by a colostomy, leaving removal of the growth and mobilized structures for the second stage, which is carried out through a perineal incision. Or if conditions are favorable, the second stage may be done at once.

From the standpoint of the ideal requirements there can be no question that the abdominoperineal operation is the most satisfactory procedure, and sufficient follow-up data are available to make it probable that the best ultimate results will follow an operation of this type. However, it is a formidable method. The mortality when performed in one stage is prohibitive unless the greatest care is exercised in the selection of risks. Miles in his latest series lost 18.1 per cent. However, in two stages, and with care in selection, even in one stage, it can be done with a satisfactorily low mortality considering the serious nature of the disease. Jones in 1922 was able to report a mortality of 8 per cent, the last 18 successive cases being without immediate fatality. There were 40 per cent of three-year cures. The operability rate was 60 per cent. Coffey had a mortality of 5.2 per cent in 37 cases. In my small series of 6 cases of the combined operation there has been no immediate fatality.

It must be said, however, that the highly specialized nature of the abdominoperineal operation renders it unsuitable for general use. In the larger centers there will be men whose interest and opportunity in this field will enable them to carry out the procedure in selected cases with low

mortality and excellent end results. We believe that it is the most nearly ideal operation, and that the best risks are entitled to the best operation and should not be consigned to a less complete operation standardized to the average skill and the average or under-average risk.

A less complete but extremely useful operation is one of various parentage but well standardized and championed by Lockhart-Mummery. This consists in preliminary abdominal exploration and colostomy without intra-abdominal mobilization, followed in a later stage by perineal amputation of the rectum and the related downward and lateral zones of spread, together with the lower portion of the upward zone. While it lacks something in completeness, it gains in ease of execution. It is not so time-consuming nor shocking, and while not a simple procedure, the technic is not difficult to acquire. Gabriel in 1924 reported a collected series of 143 cases operated upon by this method in St. Mark's Hospital, London, with a mortality of 15.4 per cent. The operability rate was 44 per cent. There were 28 per cent of five-year cures. Lockhart-Mummery later reported 200 personal cases, in 95 of which operation had been performed longer than five years ago. There were 45 cures (41.8 per cent). Unfortunately, the operability figures and method of selection are not clear.

What we are trying to determine at this time is the applicability of the various operative procedures to the problem as we find it. Lockhart-Mummery himself states that over 80 per cent of hospital cases are inoperable. His figures, therefore, evidently represent a highly selected group not readily comparable to other statistics. Still they are of interest as showing the curability of the disease and the possibilities of an operation admittedly incomplete. Rankin this year reported from the Mayo Clinic 260 cases operated upon during the last five years by this method, with 7.6 per cent mortality. His statistical summary is necessarily incomplete from the standpoint of end results, but gives the impression that the more complete varieties of operation show a somewhat more favorable percentage of ultimate cures, which is what might be expected.

My own feeling is that the best risks in the best hands should have the abdominoperineal operation in one or two stages, and that in less satisfactory risks or under less satisfactory circumstances the two-stage operation, consisting of abdominal colostomy followed by perineal excision, should be chosen.

In all this discussion, necessarily brief and only in outline, I have had in mind the cancer in its most common location, namely, the ampulla. Obviously when the growth involves the rectosigmoid or is low enough to affect the anal or sphincteric region, special considerations arise. High growths always demand abdominal operation. Very high growths may at times be removed entirely through the abdomen. In this case, the involved bowel with subjacent and superjacent mesentery can be liberally removed and a colostomy made at once, using the colon at the upper end of the excision. The stump of the rectum is inverted and left. A drain should be placed in the hollow of the sacrum, emerging either below through the vagina or above through the abdomen, protected from the general peritoneal cavity in the manner recommended by Coffey. The rectum should be excised as far down as the last valve of Houston. Growths which are not clearly above the pelvic floor should not be so treated, but should have the abdominoperineal excision.

Growths in the sphincteric area demand the highest possible excision, as well as those in the ampulla. They may also require removal of the inguinal glands and the intervening fatty tissue of the groin and buttocks.

Nothing has been said as yet of reconstituting the rectum by drawing down the sigmoid. The sooner we recognize the fact that it is rarely practicable or advisable to attempt this, the better will be our mortality and end results. The very portion of the mesentery which is necessary to nourish the new rectum is the structure most likely to be involved by early metastasis. If this mesentery is removed, the bowel will die. If it remains, the probability of local recurrence is great. There are early cases, especially of malignant polypoid growths, in which the attempt is justifiable. Any one of us would accept a reasonable chance for the sake of normal function; but in the ordinary ulcerating growths which have penetrated the outer tunics of the bowel, the hope is illusory and we should take a firm stand for amputation and colostomy, assuring the patient that the latter is not so bad as he may have heard.

Summing up the matter, it is clear that there is no one operation to cover all cases, that there are certain governing principles to be applied in all instances so far as circumstances permit, and that individualization must be carried out in assessing the risk, the type, and the extent of operation.

No discussion of this subject would be complete without reiterating the fact that radium and x-ray treatment are practically useless in this field, that early diagnosis is still the most important phase of the problem, and that any

change in the behavior of the bowels in an adult, particularly if accompanied by a show of blood, should call for an immediate and thorough examination of the rectum and colon. Medication without examination is malpractice.

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ABSTRACT OF DISCUSSION

Of Symposium on Carcinoma of the Rectum

Harold L. Foss, M.D. (Danville, Pa.): It would be well invariably to suspect all patients who present the symptom complex of bleeding, increasing constipation, lower abdominal discomfort, diarrhea, etc., of having carcinoma until proved otherwise.

Dr. Pfeiffer showed that the mortality is considerably higher following the combined abdominoperineal operation than following the so-called modified Kraske or Lockhart-Mummery procedure, although the percentage of three to five-year cures is definitely greater with the former. It has not been positively decided which of the two is the better operation, testimony being conflicting; but there can be no doubt that the *ideal* operation is the combined abdominoperineal method and that the percentage of five-year cures will be materially greater in the hands of thoroughly skilled operators than with the modified Kraske technic. High growths, of course, always demand an abdominal operation. Neoplasms at and above the rectosigmoid necessitate abdominal resection.

Radium and the x-ray are useless in this disease, and temporization with radiation should be deprecated, especially when the patient is suffering from an operable carcinoma of the rectum. Exception may be taken to this statement by some who are enthusiastic over radiation, but with so deep-seated a disease as carcinoma of the rectum, with its tendency to lymphatic involvement, even though late, widespread surgical excision alone should be considered.

Statistics on the treatment of rectal carcinoma are not encouraging, yet the outlook is far better for these patients than for those with carcinoma of other segments of the alimentary tract. Rankin, who is at present having the largest experience in the treatment of this condition of any one in the world, states that, in his opinion, the Lockhart-Mummery technic is probably the best in most rectal cases, although in rectosigmoid growths the combined operation should be the one of choice. I have operated upon 46 of these patients, and have used, except in a few rectosigmoid and sigmoid cases, the modified Kraske or Lockhart-Mummery operation. Several of these men so treated are following the strenuous life of freight brakemen, and have lived in excellent health beyond the three-year period in comparative comfort.

The one outstanding point stressed in all three papers was summarized by Dr. Pfeiffer's aphorism: "Treatment without examination is malpractice." The large number of patients with inoperable carcinoma and often extensive involvement of the lymph nodes seen almost daily in large clinics who have been treated interminably for fissure, diarrhea, hemorrhoids, and have never been adequately examined, is a significant commentary on our lack of diagnostic acumen, so far, at least, as this insidious and serious disease is concerned. The most important thing that can be brought out in this discussion is the necessity of the gloved finger when a patient presents the picture so clearly described in these papers as indicating the presence of a malignant neoplasm within the rectum.

Collier F. Martin, M.D. (Philadelphia, Pa.): Cancer usually begins as some other pathology, such as adenoma, papilloma, or ulcerative colitis. Malignant change may also occur about any chronic inflammatory process, such as an old fistula, a postoperative scar, or an old chronic stricture. It is difficult to determine when the precancerous condition ends and malignancy begins. Malignant change in the rectum usually begins in the upper portion. This section of the bowel above the anorectal line has only a visceral or autonomic nerve supply, so that the pathology causes disturbances in function only. The symptoms, whether benign or malignant, are purely mechanical, pain being absent in this area. Since the anal region is abundantly supplied with a special sensory mechanism, pathology here presents an entirely different group of symptoms. Because of the accessibility of this area, diagnosis of disease is comparatively easy. A patulous condition of the anal outlet is frequently a sign of mechanical interference in the bowel above. I have observed this condition in impaction, intussusception, and rectal stricture, either benign or malignant.

All patients who have had any pathology producing changes in the mucosa of the rectum or colon should be examined periodically long after an apparent cure has been effected. This, of course, necessitates the coöperation of the patient, which unfortunately is not universal as yet.

I am afraid I must disagree with Dr. Allen that early carcinoma is easy to diagnose. The symptoms are so easily confused with those due to other conditions that without great care early malignancy may be overlooked. Particularly is this true when benign pathology is present, as all of the symptoms may be accounted for by the findings in the anus or lower rectum. It is difficult to be certain that a cancer is in an early stage, as the position of the primary growth in relation to lymphatic drainage rather than its apparent size will largely determine the extension of the process to distant parts of the body. It would appear that malignancy diagnosed by local examination is well advanced, and the problem is to decide whether the growth is removable with any degree of hope for the future of the patient. The position of the tumor and the nerve supply and function of the structures invaded will influence profoundly the severity of the symptoms.

Dr. Allen has wisely placed digital examination as the most valuable method in making a diagnosis. The majority of rectal carcinomata are well within reach of the index finger. By partly filling the index finger of the glove, an additional half-inch to inch of the bowel may be palpated. The squatting position suggested will also allow of a much higher examination. When the growth is in the pelvic colon, visualization by means of the sigmoidoscope must be relied upon. In case of doubt as to the type of tissue seen or felt, biopsy should be practiced when possible.

A Wassermann test is of value only for the information it gives of the presence or absence of luetic infection; it reveals little of the nature of the local process. Biopsy is indicated as a check, for both cancer and syphilis may be present.

The x-ray gives valuable information as to the presence of a tumor or obstruction in the gut, but it shows little in early cases, and the nature of the process is only inferential. It is particularly valuable in tumors or strictures involving the pelvic colon and the gut

above, for only the lower half of the pelvic colon may be explored by instrumentation.

The operation for rectal cancer cannot be too radical if a high percentage of cures is to be expected. It is refreshing to hear Dr. Pfeiffer support the operation of colostomy, as I know of no procedure which gives the patient so much relief. The most poorly functioning colostomy is preferable to the terrible tenesmus and frequent attempts at defecation in the uncolostomized case of rectal cancer. The newer operative technics, such as that described by Dr. Pfeiffer, have in view the radical removal of the growth as well as of secondarily invaded lymph glands, with particular attention to the preservation of the blood supply of the bowel stump, so as to lessen the danger of death from gangrene and sepsis.

There are still many points as to the anatomy, physiology, and pathology of this portion of the bowel that will doubtless profoundly modify our methods in years to come. Better results will be attained only by early diagnosis, followed by early and radical operation in the hands of those who have been specially trained to handle this situation.

Case Reports*

CARDIOSPASM

JOHN D. GARVIN, M.D., M.S. IN MEDICINE
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In considering patients with gastro-intestinal complaints, too often is the esophagus overlooked as the possible site of trouble. Of the various ills to which this particular organ may be heir, carcinoma is the most frequent, and next to it cardiospasm. The condition is defined by Vinson as "a spasm of the musculature of the cardia or epicardia, usually so severe as to produce partial or complete obstruction to the passage of food into the stomach. It is frequently associated with moderate or marked dilatation of the esophagus. The cause is unknown."

SYMPTOMS

The most common symptom is dysphagia, varying in degree from slight obstruction of food to complete esophageal closure. The dysphagia differs from that produced by strictures, benign or malignant, in that fluids are as hard to swallow as solids. Regurgitation of food at night and epigastric pain are also very common symptoms.

DIAGNOSIS

The diagnosis is made by the typical roentgenologic findings and a history of dysphagia of long duration, with as much difficulty in swallowing fluid as solid food.

*Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

Fig. 1. Case 1. Cardiospasm before treatment. Note the marked dilatation and atony of the esophagus. Film taken fifteen minutes after ingestion of barium.

TREATMENT

Of the various forms of treatment, the use of the hydrostatic dilator with from 16 to 28 feet of water pressure, has been found to be most beneficial. Indeed, the prompt results are truly remarkable. Immediately following dilatation, the patients are able to eat any kind of food without discomfort. Vinson says that there are recurrences in about 25 per cent of cases.

CASE 1. Mrs. C. J. R., 55, came with a chief complaint of "gas pains in the chest" plus the fact that "I just can't eat. I can't keep the food down." Liquids came up just as much as did solid food. She also had

Fig. 2. Case 1. Cardiospasm after the first treatment. Film taken immediately after the ingestion of barium.

been unable to drink cold water for a number of years; occasionally hot water would stay down but never the cold. Not infrequently she would regurgitate food that she had eaten four to five days previously. For five years she had run the gamut of medicines and physicians, complaining of "stomach trouble," but never once in that time was she accorded the advantage of fluoroscopic and radiographic examination. On fluoroscopy, marked cardiospasm was found with dilatation of the whole esophagus (figure 1).

One week later she was treated by means of hydrostatic dilatation with but 10 feet pressure the first time, due to her marked emaciation and poor condition generally. This was done by Dr. T. S. Swan, with the result that as soon as she returned to her bed from the operating room she ate and relished a dinner of roast beef, carrots, potatoes, spinach, bread, pineapple, and coffee. Roentgenographic examination after this showed still some lagging of the barium meal, but the esophagus, which was previously enormously dilated and atonic, now was much narrower and visible peristalsis could be seen. The meal passed through into the stomach with fair rapidity, although not at a normal rate, there being still enough lagging to permit the

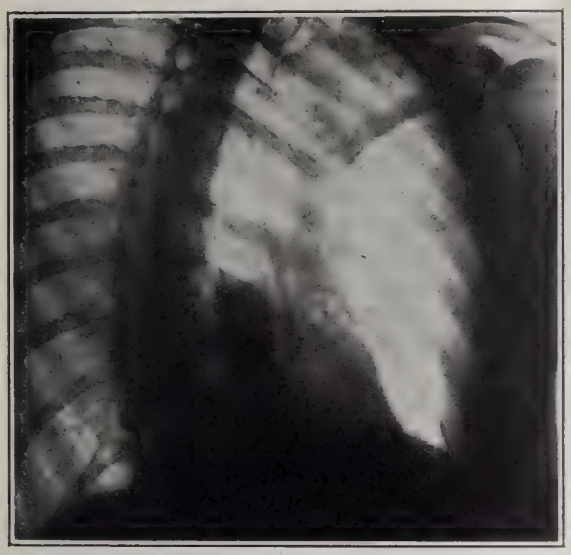

Fig. 3. Case 1. Cardiospasm after treatment. Film taken twenty-three minutes after the ingestion of barium.

making of a radiogram of some of the media in the esophagus (figures 2 and 3). Two other treatments were given by Dr. Swan subsequently, with the result that no further retention of barium could be noted or filmed, and in three months she was wholly free from all manner of complaint. Her gain in weight had been twenty and one-half pounds. Her friends were loth to credit her physicians, saying that it was "simply a miracle."

CASE 2. This, the case of a business man of 34, was not handled by me directly, but I was permitted to see him and watch his progress through the courtesy of Dr. W. W. G. Maclachlan, who referred him to Dr. Swan for treatment. His chief complaint was regurgitation of food at night, sometimes a quart of fluid welling out of his mouth and over the bed. He had slight epigastric pain and some dysphagia, but was always able to "cram" his food down "in some way." His complaint was of a year's duration. Hydrostatic dilatation gave him the usual immediate relief, but on account of rather marked obesity and the amount of intrathoracic pressure that he produced by straining during a treatment, several dilatations, of graduated force, were necessary. His ultimate response was excellent.

5004 Jenkins Arcade.

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"MENTAL TWIST"

THEODORE DILLER, M.D.
PITTSBURGH, PA.

A young man aged 22, brought to me by his mother, had been raised in the Catholic faith, and his mother was in great distress because he had abandoned that faith and become an unbeliever in any form of Christianity. On the advice of the family physician he was brought to me. On reading the note of introduction from his physician, I strongly suspected that the change in religious views might mean a mental twist or the beginning of an actual psychosis. After an interview with the mother and the boy, I was convinced that the young man was entirely normal, and that the mental change was due to a slackening of interest in things religious owing to environment and to adolescent changes quite normal—some new arrangement between the emotional and mental part of his make-up. The boy himself, in discussing the matter, said that religion is a matter of emotional expression primarily, with the "will to believe," as declared by James. I told him that I was entirely in agreement with him, but warned him not to take himself too seriously at the present time, saying that he might find himself coming back in due time to the religious faith of his mother and his own boyhood. The mother was cautioned to let him alone for the present.

This case illustrates the fact that, in one phase or another, the question of religion must concern the physician. It is one that he cannot and ought not to wish to escape, for it is a very large problem. In this connection, a quotation from that sound philosopher, Dr. Samuel Johnson, is interesting. On one occasion Boswell said to him; "Dr. Brown has changed his religion and has left the Church of England and become a Baptist. What do you think of it?" Replied Johnson: "Sir! I think very ill of it." Said Boswell: "You should not be prejudiced in the matter because he has left the Church of England, for you have always supported the view that a man who is sincere and

conscientious in his convictions, no matter where they lead him, is deserving of respect." Johnson replied: "Dr. Brown is a man of forty, and if he is unsettled in his religious convictions at his age, he would be uncertain and wavering in a medical way, and I would have no confidence in such a physician."

A CASE OF MENINGOCOCCIC MENINGITIS TREATED BY THE LUMBAR, CISTERNAL, AND VENTRICULAR ROUTES

ROLAND N. KLEMMER, M.D.
LANCASTER, PA.

The patient, a girl of nine years, had a history of having struck the back of her head against a rocking chair eight days before hospital admission. There were no immediate untoward effects from the blow on the head. The next day, however, while in school, she vomited and became "feverish." The following day she had a short period of diplopia, and in a few hours her back and neck began to stiffen.

She was admitted to the service of Dr. John L. Atlee, at St. Joseph's Hospital, Lancaster. on April 24, 1926. At this time she was mentally apathetic, and there was well-marked rigidity of the neck and back. Her temperature by mouth was 106°, pulse 154, and respiration 44. The blood count showed a hemoglobin of 70 per cent, red blood cells 3,600,000, white blood cells 15,600. In the differential count there were 60 per cent polymorphonuclear neutrophiles, 36 per cent small lymphocytes, and 4 per cent large mononuclears. There was a faint trace of albumin, with a few hyaline casts in the urine. About fifteen cubic centimeters of milky spinal fluid were obtained by lumbar puncture. There were 400 cells per cubic millimeter, with 95 per cent polynuclears and 5 per cent mononuclears. No bacteria were discovered on direct smear or on culture.

Fifteen cubic centimeters of antimeningococcic serum were immediately injected intraspinally, and this was repeated daily for four days, on the fourth day meningococci being for the first time discovered both on direct smear and by culture.

By May 6th, two weeks after admission, six spinal punctures and two cisternal punctures had been performed, at each time fifteen cubic centimeters of antimeningococcic serum being injected. She was extremely emaciated and semi-stuporous. Her temperature varied between 104° and 106°. In other words, she was no better than on admission. It was evident that in order to keep her alive much longer, more drastic measures were necessary.

On May 7th the skull was trephined above and posterior to the right auditory meatus, and fifteen cubic centimeters of serum were injected into the right ventricle. Following this, thirty cubic centimeters of serum were introduced every day for a week into the cisterna magna, according to the technic of Ayer. The date of the ventricular puncture marked the period of arrest of the disease, and the patient continued to improve until discharged in excellent condition on June 2d.

SUMMARY

The successful cure of an unusually resistive case of meningococcic meningitis is reported. Over a period of twenty-two days she received six spinal, one ventricular, and nine cisternal injections of antimeningococcic serum. It is interesting to note that, for each injection, save one, she was under complete ether anesthesia for periods of one-half to over one hour, without apparent deleterious effect. On several occasions, when puncture was attempted without ether anesthesia, she begged to be "put to sleep." Serum from the same biological firm was used in all injections except the seventh and eighth cisternal, when another firm's product was employed. We do not feel that in this case the change in serum influenced the result.

When seen October 4, 1927, one year and four months after discharge, the patient was apparently in perfect physical condition.

A RADIUM BANK

One of the recognized needs in the treatment of cancer is a supply of a suitable quantity of radium. Some of the many centers against cancer in France are already provided with it. Each center in Belgium is required by law to possess at least one gram, a requirement which is the more feasible of enforcement in that country by reason of the fact that the entire output of radium in the world is now in the hands of a Belgian company. Some hospitals in the United States are well provided with radium, but some of the largest and best have none. In not a few it is necessary to depend upon the radium owned by surgeons connected with the institution. In Sydney, Australia, it has been proposed to make a quantity of radium available to all physicians who are qualified to use it. The idea is to have a radium bank possessing five grams of radium which will be loaned to physicians throughout Australia.—*Campaign Notes* of the American Society for the Control of Cancer, September, 1927.

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JANUARY, 1928

Editorials

A NEW YEAR'S GREETING

The JOURNAL extends to its readers in and out of the State its best wishes for a prosperous New Year. The medical profession never before has had such opportunity, nor been called upon to assume such responsibility as is now confronting it.

We like the spirit of the new year, Nineteen Twenty-Eight. It has industry, constructive purpose, and a more discriminating sense of values. Service is getting to be a hackneyed word, but we believe the sincere purpose of our profession each year is to give better and broader service than ever before, due to the advancements and achievements of scientific medicine that make it possible. We regard our duties and responsibilities with altruism, earnestness, courage that to us is charged with good cheer and inspiration, for it is out of this spirit that real progress comes.

The sails are all set for a sane, busy, constructive, and progressive year. And not only are the sails set, but the trade winds already are blowing! The good ship moves majestically out of the new-year harbor, bound on a voyage which, in addition to its work and duties, and mayhap at times hardships, also will have its sure and pleasant rewards.

We have our duties incident to the daily practice of our profession. We have our duty to organized medicine, through our activities in county, state, and national medical societies.

A new year opens! It is the open season for making good resolutions, and such resolutions properly carried out work most effectively toward the betterment of organized medicine.

Let us bear in mind the necessity for regular attendance and participation in the meetings and other activities of our county, state, and national societies; that we will make the most important engagement of the year, attendance at the annual meeting of our state society; that we will manifest practical interest by a determined effort to enroll, as far as possible, every eligible nonmember in our local county societies; that we will continue our interest in periodic health examination with renewed vigor, owing to the necessity therefor from every viewpoint, but especially to reduce the morbidity and mortality from tuberculosis, cancer, and cardiac and renal diseases; that we will observe more closely prenatal care, and exercise rigid asepsis and antisepsis in our obstetric work, in order to reduce to an absolute minimum morbidity and mortality in the pregnant and parturient woman, which remains too high notwithstanding the advancement made in the art and science of obstetrics; that we will manifest with added zest our interest in the child of the preschool age; that we will arise to the supreme importance of assuming to the fullest extent our responsibilities in preventive medicine, and the education of the lay public in this regard, the parents to be duly advised of the necessity for protecting their children with toxin-antitoxin in order that diphtheria soon may be wiped out; that the inhabitants in communities where improperly and unsewered towns and unprotected water supplies exist will have the proper use of antityphoid vaccination.

A secretary's job is no snap. The secretary of the county medical society gets more abuse than any other man in his immediate community. What he should have is the cordial coöperation and support of every medical man in his county, to the end that the county medical society will be as good as it can be made. Furthermore, the secretary should be relieved of the necessity of hounding the members for the payment of dues.

Send him your check now for 1928, and save him the necessity of going after you.

Read your JOURNAL each month systematically and with interest. It is not that you do not *have* the time; the trouble is you do not *take* the time. It is a good plan to set aside each day a certain period, if possible, in which to read and reflect, whether you have the inclination to do so or not. We are all too prone to go in the direction of least resistance. The big thing is to get the habit of reading. Then comes attention, interest, desire, and action. Reading, like a plant, grows and develops by what it feeds upon.

Let us all work together to make 1928 our best year.

J. SOLIS-COHEN, M.D.

The death of Dr. J. Solis-Cohen at his home in Philadelphia, on December 22d, in his 89th year, closed a most distinguished career. Dr. Solis-Cohen was a pioneer in rhino-laryngology, and was one of the first physicians in America to specialize in diseases of the nose, throat, and chest. To the end of his life he was keenly interested in the progress of medical science and the affairs of city, nation, and the world. Dr. Solis-Cohen was emeritus professor of rhino-laryngology at the Jefferson Medical College, and was associated with several of the Philadelphia hospitals. Honorary degrees had been conferred upon him by Jefferson Medical College and Temple University.

He served as an assistant surgeon of the Twenty-eighth Pennsylvania Regiment and later in the Navy during the Civil War, and was a member of G. A. R. Post No. 2, of the Naval Order of the United States, and of the Army of the Potomac. A special medal was bestowed upon Dr. Solis-Cohen by Congress in recognition of his services with the du Pont expedition to Port Royal while serving in the Navy during the Civil War. This medal was voted to the survivors of the expedition fifty years after the exploit.

One of the most touching incidents that we can recall occurred during the World War at a meeting held in Philadelphia to interest the physicians of that city in enlisting in the military service. The meeting was addressed by distinguished medical officers of Great Britain and Canada, home on leave from service in the amphitheater of war. Just before the meeting was called to order, there walked up to the front of the room, arm in arm, the venerable Doctors J. Solis-Cohen and W. W. Keen, the former in the uniform which he graced during the Civil War, and the latter in the khaki and puttees of the modern Army. It was a sight that thrilled the audience and did much to arouse to its highest pitch the patriotism of those assembled.

Dr. Solis-Cohen was an ex-president of the Philadelphia County Medical Society, and while in office invited Dr. O'Dwyer, of New York City, to address the Society on his device for intubation.

The achievements of Dr. Solis-Cohen, the nestor of American laryngologists, in his chosen specialty are well known to the medical profession, and both his career in medicine and his interest in public affairs should be an inspiration to all physicians. Until his death this distinguished physician was always doing something. His pioneering achievements are his enduring monuments. Dr. Solis-Cohen was an eminent Philadelphian, and an eminent American who conferred lasting benefits on humanity.

SYMPATHY TO DELAWARE

A good neighbor is an asset to be cherished, and his loss is greatly to be mourned. Such a man was Dr. Albert Robin, of Wilmington, Delaware, whose death of heart disease occurred on December 22d. We last saw Dr. Robin when he attended the Pittsburgh session of the Medical Society of the State of Pennsylvania. His friendliness at that time and his eagerness to coöperate for the good of the profession and the public makes us feel that the JOURNAL has lost a faithful friend.

Dr. Robin was a member of the Publication Committee for Delaware, an associate editor, and a frequent contributor to the Delaware department of the JOURNAL. His loss will be keenly felt, and the JOURNAL offers its sincere sympathy to the family and confreres he leaves behind.

A GARDEN OF WEEDS

Even those who deny the principle of physical evolution cannot gainsay the evolution of ideas since the dawn of history. ".....it was said by them of old time.....An eye for an eye, and a tooth for a tooth....." The ancient idea was that men were either good men or criminals—all white or all black. The smallest infraction of the laws that were supposedly descended from above meant drastic punishment, often of a type to break the convict's manhood and force him to remain for his lifetime an outcast. Revenge was the thing; not the protection of society, and still less the regeneration of the law breaker.

The insane were supposedly abandoned by the gods, as punishment for some unknown offense against them, to habitation by demons. In accordance with this idea they were driven from human contacts, incarcerated in dungeons, confined by chains, and shamefully abused.

Even far into the Christian era these ideas persisted, despite the injunction ".....whatsoever ye would that men should do to you, do ye even so to them....." Only very gradually has the idea developed that mental deficiency is due to physical defect, that crime very often has its base in physical abnormality, that children should be trained instead of repressed, that the body should be properly nourished and cared for instead of castigating the flesh for the good of the spirit; that, in fact, the body and the spirit are interdependent, and whatever is beneficial to the one will be salutary to the other, whatever is harmful to the one will be destructive to the other. Today we see a fuller realization of these truths than ever before; yet we still have a long way to go before a large enough number of the people will support a social system entirely based on these concepts to permit full development of constructive governmental policies consistent with them.

It has taken centuries to bring the standard of the social body to its present level. It will probably require further centuries to educate the great mass of the people to the ideas now growing in the minds of those in the van of progress. Yet the signs of the times are encouraging, and a part of the harvest, at least, is ready for the reaping. There has been a marvelous development during the past half century. Few thinkers question that we are at the beginning of a new age—that we are witnessing the taking hold of a new idea in human affairs —the idea that not respect for law, but responsibility for human relations is the factor best favoring a healthful social environment. Resulting naturally from the inevitable overturning there is a certain degree of chaos. New ideas have always resulted in unrest until experience has shown how best to use them. There seems, therefore, little cause for real apprehension. There are always those who oppose progress, but they inevitably disappear. Great movements require time and patience, and so it is in the present case.

The body politic requires further education in its social obligations. It will take time to develop fully the idea, already accepted in part, that it is incumbent upon the State not only to care for the mentally ill and mentally deficient, but to prevent the existence of these conditions; that it devolves upon the State not only to punish offenders against its laws, but also to prevent the inception of individuals predisposed and conditions predisposing to such offenses.

The conclusion that the medical profession is, at least in part, responsible for the training of society in the acceptance of these tenets cannot be avoided. No other citizens have the facilities for research in the connection between mental and physical abnormalities. No others have the knowledge fitting them for this research. The widespread organization of health agencies by the laity indicates that they are eager for expert guidance, and that the facilities of these various organizations will be at the command of the profession in its altruistic endeavors to improve the mental and physical health of the citizens of the State.

It cannot be questioned that the destiny of of the human race is in its own hands. It is in our power, with the intelligence, the knowledge, and the vast wealth now at our command, to prevent by methods entirely humane the reproduction of the unfit, to encourage improved industrial conditions, better health habits and environment, to develop in the people an understanding of underlying principles which will in time lead, not to a race of supermen, as the carping critics cavil, but to the optimum development of every inhabitant of our land—physical, mental, and spiritual.

Yet we are not doing this today. Perhaps the time has not yet arrived, and mayhap we are shirking our responsibility. If every physician were to put his shoulder to the wheel (the balance wheel!) and push, perhaps the clock could be hurried and these ideal conditions could be realized during the next half century—during the lifetime of some of our readers.

The appalling conditions cited by Dr. Frazier in his address published elsewhere in this Journal are discouraging: 2,092 insane patients who cannot get proper care in our Pennsylvania hospitals today; 2,592 other insane patients on parole; an average *increase* of 1,136 insane patients each year during the past five years; 1,500 persons now on the waiting lists of the three State institutions for the feeble-minded; need for an additional mental hospital every two years to care for the additional cases developed. Workers in this department of the State's activities tell us that the conditions *cannot be overstated.*

It looks as though we are headed backward. Yet we have it in our power to go forward. If we do not, it will be to our undying shame. Those of us who are intelligent owe this problem our best efforts. Those of us who are capable of leadership owe it to our race to lose no oppor-

tunity to broadcast the conditions to the people and to insist that they begin the solution of the problem *now*. The first step is the voting of the $50,000,000 bond issue. This must not fail of passage. But it is only the beginning. There is vast labor to be done in the human garden before the weeds are eradicated and the useful and beautiful plants are given an opportunity to develop to their highest capacity.

INCREASED RATES IN AUTOMOBILE INSURANCE

As physicians are greatly interested in anything pertaining to automobile insurance, no doubt most of them are now aware of the increase in rates which became effective December 10, 1927. The liability rates on the smaller and medium-sized cars have been increased $10 over the previous rates, while those on larger cars are something less than $10. The liability rate for trucks was not changed because there was a big increase in their rates last year.

Reports have been circulated recently in insurance circles that the increase was due to the growing numbers of exaggerated claims for injuries and demands for settlements out of proportion to actual damages. It is further claimed by the insurance agents that the increase in insurance rates could be laid directly at the door of an alliance of lawyers' runners and unethical physicians.

One insurance agent stated that while it would be unfair to say that every accident case was tainted with fraud, a considerable portion of claims originating with attorneys making a speciality of automobile accidents was open to suspicion. He pointed out also, that in a number of these cases unscrupulous physicians were employed to "detect" internal injuries. By way of illustration, he said that a recent accident case was settled for $800. When deductions were made for doctor's fee and expenses of litigation, the victim received $100. He stated that the insurance company had offered to make direct settlement for $325.

In the recent rate increase it is said that one of the largest single factors is the "ambulance chaser," who has access to accident records in hospitals and who hucksters his cases to the highest bidding lawyer after he has obtained the victim's signature to a power of attorney. It is alleged that the elimination of these practices would bring about a substantial decrease of insurance rates.

Unfortunately, it is true that there are some unscrupulous physicians who are guilty of this form of professional misconduct, and it will be most difficult to abate this nuisance, because there will always be some physicians who will accept this form of service for the financial returns. Then, too, there are physicians working with lawyers, who will go to the hospital where an accident case is or has been under treatment, state they are the family doctor, and will be afforded an opportunity of looking over the records. This information will be used by the lawyer further to show the family of the victim why he should be retained, or it may be used by the lawyer engaged for the defense. Any physician obtaining information in this manner and for ulterior motives, should be properly disciplined. The hospital should refuse him further entrance.

Lawyers know that as a rule the automobile owner carries liability insurance, and when the opportunity presents itself, the owner is duly notified, and said notice, of course, is turned over to the insurance carrier for further attention. If possible, the carrier will try to make an adjustment, rather than go to court, because in so many instances juries have awarded fabulous verdicts. If the owner has no liability insurance, the matter is usually dismissed with the statement "He has no insurance, he does not own anything. How are you going to get anything out of him?" We know of numerous instances of this kind. But we have never heard of a physician owning an automobile not carrying liability insurance.

We know of a physician who has had three accidents. In none of them was he at fault. Two of them were collisions with another automobile. No witnesses. His carrier paid the damages to the other car rather than contest. In the third instance a woman crossing a street at the crossing had stopped in the middle of the street to allow traffic to pass by. She looked up, saw the physician's car directly alongside of her, and lowering her head, started across the street. She walked into the rear wheel and was thrown to the ground. The physician stopped his car, and got out to render any aid to the woman. She was on her feet immediately, and smilingly spoke to him. He was surprised to see that it was a woman who had consulted him some few years before. He placed her in his car, and took her home. She apologized for the occurrence, stated she was confused by the traffic, and the fact that she was menstruating, at which time her mental condition was always disturbed. There were no witnesses to the accident. The carrier for the physician stated they were further handicapped by the fact that there were no witnesses to the statement made by the woman, as she made the remarks while alone

with the physician in his car. In about two weeks subsequent to the accident, the physician received the typical type of letter from the lawyer's office with whom the husband placed his case. The carrier tried to make an adjustment. The lawyer stalled. Numerous appointments were made by the examining physician of the insurance company with the lawyer to examine his client. In each instance the appointment was called off by the lawyer. Finally he entered suit for $30,000 for the injuries sustained by his wife, in which the claim was made that she had sustained a paralysis of both legs which would remain permanent, and $10,000 for the husband, as he would be required to give her indefinite medical care. The carrier tried to settle, rather than go to court, because the juries in the city where the accident occurred were awarding unheard of verdicts. Shortly before the case was due for trial, the carrier finally succeeded in settling with the lawyer for $500.

This raises a very interesting question we have never been able to solve: Why is a lawyer permitted, in bringing suit, to make claims of injuries that he knows are not present, when he is conscious of the fact that he is deliberately making false statements in filing his claim for damages? We will admit that there are cases where a reasonable doubt exists, but there are too many instances where the lawyer knows he is deliberately falsifying his claims. We are told that there is no redress at law for this nefarious practice, that an attorney has the right to bring suit and present his claims, and that it is then up to him to prove them. If he succeeds in proving his claims he wins a verdict, if he fails to prove his case it is either nonsuit, or he loses the verdict. It still seems to us that there should be some redress where a suit was filed, as in the case mentioned, to recover damages for injuries purporting to produce a permanent paralysis of both legs, and a settlement was finally accepted for a paltry few dollars in proportion to the amount claimed, showing beyond all question of a doubt that the claims made were untrue. The physician was eager to have the case go to trial, as he had witnesses who were willing to testify that the woman was seen walking around her home, but the carrier was afraid of what a jury would do. It is of interest to note that shortly after the settlement was made, this woman became pregnant after several years of sterility, and was delivered of a living baby at term. The insurance carrier annulled the physician's policy after this case had been settled, on the grounds that he was a bad risk, yet in none of the three accidents was he at fault, the carrier settling, right or wrong, rather than go to trial, incur the expense thereof, and take chances with a jury. This physician would be in a bad predicament if his efficient agent had not been able to place insurance elsewhere for him.

It is of interest to note how quickly lawyers' offices receive the required information after an accident case has received treatment in a hospital, whether in the accident dispensary as an ambulatory patient, or admitted to the house. We are told it is extremely rare that a hospital does not have an employee who, for remuneration, will immediately supply the necessary information.

These vicious practices do occur, they never will be completely eradicated, but efforts should be made to reduce them to a negligible quantity.

PROTECTING THE EYES OF THE NEWBORN

It has been brought to our attention that one of the important matters of legislation made effective in the spring of 1926 failed to be widely understood by the medical profession. And since it is so intimately connected with the prevention of tragic disease results among the people of the Commonwealth, it merits editorial comment. We refer to the regulation of the Advisory Board of the Department of Health providing for the use of a prophylactic in the eyes of the newborn.

Pursuant to this decision the Department of Health supplies, gratis, to all doctors and midwives silver-nitrate solution put up in wax capsules after the most approved fashion. Some prophylactic in the eyes of every newborn baby is obligatory; which particular type of prophylactic each doctor has a right to decide, according to his taste, but this step in the prevention of ophthalmia neonatorum is no longer a matter of choice. There are some seven hundred or more silver-nitrate distributing centers scattered over the State, identical for the most part with diphtheria-antitoxin distributing centers. The wax capsules may also be had by any physician applying directly to the Department of Health, Harrisburg.

No case of blindness from ophthalmia is ever excusable in this day and age. Doctors may differ in the methods they employ to prevent it, but any case of blindness from gonorrheal infection, in the face of modern knowledge, is a crime. Ophthalmia neonatorum is much less frequently a cause of blindness than formerly, but it should cease altogether to be a destroyer of the sight of babies. The neglect of simple preventive measures, the drug for which is so

easily obtained and so easily applied, and entailing, when omitted, possibilities of such dire consequences, should never be countenanced.

The medical societies should see to it that all their members are conversant with the fact that the regulation makes the matter obligatory. Parents also should understand thoroughly that sore eyes in newborn babies is so serious as to be a matter of governmental concern, and they should realize that not only are doctors required to do their part at the time of birth, but that due watchfulness in taking prompt steps at the first signs of any soreness of the eyes in the days immediately following birth is also a part of the whole movement to do away with one of the world's most tragic handicaps.

ANNUAL MEETING OF THE PENNSYLVANIA TUBERCULOSIS SOCIETY

The annual meeting and conference of the Pennsylvania Tuberculosis Society will be held at the Penn-Harris Hotel, Harrisburg, on January 24 and 25, 1928.

The effort to conquer tuberculosis in Pennsylvania has resulted in cutting the death rate for this disease from 150 to 77 in the period from 1906 to 1926. The most difficult half of the task remains. This meeting will afford an opportunity for all tuberculosis and health workers in the State to get both information and inspiration for the task ahead. The results so far obtained should stimulate the medical profession to greater activity in urging upon the people the need for periodic health examinations.

In the program, emphasis will be placed upon early diagnosis, tuberculosis in childhood, and the need for additional sanatorium beds. A program especially for physicians is being arranged to follow the evening session on the 24th. Every one interested is cordially invited to all of the sessions.

WHO'S WHO IN MEDICINE

At the last annual meeting of the Medical Society of the State of Pennsylvania, action was taken adopting the report of the Committee on Necrology published on page 837 of the September JOURNAL. This action provides for a uniform and complete record of every physician after his death if all component county societies will assist by making use of the blanks with which they have been supplied by the secretary of the State Society.

It is hoped that every county society will, at the beginning of the new year, make proper provision to coöperate, either by appointing a committee on necrology or by amending its constitution so that such a committee may be appointed to assist the secretary to keep proper records in the archives of both county and State Societies.

Such full and complete records of deceased physicians have never before been kept, except in cases of especially prominent members and in special works. The purpose is to preserve an authentic account of the life of every physician, in a place easily accessible to his posterity or to others interested.

It is suggested that in reporting deaths to the county societies the same respect and reverence will be shown to the deceased as is provided for when the Committee on Necrology makes its report to the State Medical Society.

May there be uniformity in this laudable project by the entire profession of the State, so that all may know hereafter who's who in medicine!

THE HISTORY OF THE MENTALLY DEFECTIVE

The word idiot has an interesting history. Its primary Greek significance was that of a private as distinguished from a public person. The beginnings of the degradation of the word are shown in its application soon to the common people, as distinguished from the upper classes. It was then applied to unprofessional and lay people, and soon became the slurring title of the unskilful and awkward. By slow degrees it became applicable to the stupid, and at last to the imbecile and mentally defective. As late as the sixteenth and seventeenth centuries the word was still used in the earlier senses.

This long, sad history portrays indirectly the pathetic story of the imbecile. If he was not killed or starved to death by neglect, etc., he was usually reduced to the condition of a beast, either about the house or fields, or was actually driven into the woods and forced to live in caves, among wild animals, etc. In 1799 Itard took a "wild boy" found in the forests of Aveyron, and tried to teach him. The ability of the wild boys and wolf children to live, and the number that did so, shows that idiocy, as we have later learned, is of all degrees, and that a mind may be variously defective, in some ways even idiotic, but in others with capabilities well preserved. Blind Tom, the pianist, and the large number of mathematic idiots are examples that show how far we are from understanding the real nature of idiocy, and they more than suggest the partial retention of sound mentality of the defective,

the possibility of seizing upon the one or few normal or even highly developed faculties, and perhaps bringing others into coördination with them and to normality. The court fools and jesters of the olden times were often such partial idiots and defectives, and they truly lived upon their "wits," which were often better than those of their masters.

JOTS AND TITTLES

Dynamite!

A sense of humor is like dynamite—invaluable in the right place, but mighty dangerous in the wrong one. We have learned that, like dynamite, it is safest for us to label our jokes. One of our friends said recently: "I never know whether you are telling the truth or joking." Consequently we are tacking a large spoofing sign onto the following delectable concoction recently sent in by one of the heavy contributors to our editorial columns. We were afraid to include it with the editorials, for to run true to form, these profusions must deal with the serious things of life, in a style restrained and perhaps somewhat ponderous. This column, however, revels in such light and airy badinage.

A NEUROPSYCHIATRIST'S NEW YEAR'S CARD

My wishes for the New Year are: that you will not take to heart my scientific contributions during the past year; that if you do not possess a good heredity, you will not worry about it. Just remember that the world interests itself in the heredity of two groups only——the mental defectives and the celebrities. I wish that you continue to remain alien to both groups. Sincere friendship is questionable with either.

I wish that you continue to enjoy the fruits of your early training; I wish you not to worry over what I have said about adequate vocational preparation. Pack horses, such as you, are needed everywhere. In the event that you have difficulties, however, why not enter politics or seek public office or run for Congress?

As to your social status, it is my earnest thought that you have had sufficient experience in companionate marriage. It would seem that you have ample posterity to warrant permanent binding. Nevertheless, I trust your posterity will continue in great numbers, and whether preschool, school, or collegiate age, that they will display no modern mannerisms or habits; that they will visit the many specialists, including the psychologist who will label them as group workers or as leaders and as possessing adequate sex knowledge.

As to you personally, old top, I sincerely trust that by now you have sufficient education, training, and experience so that you can adapt yourself to this old world's changing environment, whether it be a household of young interrogators, delicatessen meals, hard-boiled bosses, low wages, or flat pocketbooks, and that your emotions and conduct under such circumstances remain, as always, *par excellence.*

I wish that you would not take yourself too seriously, remembering the adage, "Consider the lilies of the field; they toil not, neither do they spin." Just meet the situations, old boy, just meet the situations as they arise. I trust that your complexes will be due to intestinal inactivity only; that your religion and patriotism will not be shattered by Freud's recent contribution; that your subconscious mind, properly censored, will permit a sleep undisturbed and especially freed from the symbols of "It." I trust that as you approach old age, you do so agreeably and companionably, thus ensuring a seat by the fireside for your advancing years; and that many Christmases will yet come and go before you are forced to join the nightgown-and-candle brigade, whose chief pastime is down and up, and up and down from dark till dawn. Somewhat Utopian, but this my fondest wish!

An Occupation for the Retired Physician

We doubt if there is a physician in practice for any considerable number of years who never to himself has said "If only I could retire!" But what to do if he does retire—that is the question. The report, recently issued, of the Bureau of Plant Industry, U. S. Department of Agriculture, drops a hint to all who have agricultural inclinations. Wide newspaper publicity has been given to certain spectacular searches after rubber-producing plants which can be grown in the United States. The Department, however, has not been confining its efforts to rubber. One of its successful ventures has been the establishment of Japanese mint as a crop in the United States in order to provide a domestic supply of menthol. Another has indicated the feasibility of growing santonin in California and Oregon, and perhaps other states. This effort to make our country self-sustaining in an agricultural and botanical sense is one of the most fascinating hobbies which any physician could take up. In addition, it will provide him with healthful exercise, and a possible vocation when he is ready to retire from practice. Some one has said that your hobbies should always be possbile of development into productive enterprises in case of need. This is one worth looking into.

Smoke Studies

The United States Public Health Service has been studying the amount of sunlight available at various times. They have found that in December the average illumination on cloudy days is about 23 per cent of that on sunny days, while in June this ratio is about 26 per cent. At the lower end of Manhattan Island, where the air is very smoky, there was an average loss of daylight due to smoke in January, 1927, on sunny days of 42 per cent at 8 a. m., and of 18 per cent at noon. In June, the loss of daylight had decreased to 33 per cent at 8 a. m. and 6 per cent at noon. These figures applied only to clear weather. For foggy days the loss was much greater. Loss of daylight, however, is not the only evil resulting from the presence of smoke in the atmosphere. It also screens out to a much greater extent the ultraviolet rays which are so necessary for good health. This illustrates vividly how the province of the physician is expanding. Smoke reduction is a health problem, and any plan that will help to eliminate it is of vital interest to the medical profession—even giant power! This is *not* a joke.

"Tuberculous" vs. "Tubercular"

The misuse of the word "tubercular" is one of the commonest errors made in medical literature. In the *Bulletin of the National Tuberculosis Association* we have come across a description of the distinction in current usage that may be helpful to our readers. We are sorry there is not space to print the entire article, for it is interesting. We quote in part: "The term 'tubercular' came into use long before the tubercle bacillus was discovered by Koch in 1882, and was used originally . . . to indicate a morphological appearance

of a nodular character in the tissues of animals. When men began to study consumption more carefully, and found out something about the characteristic nodular formations that appear in the tissues of the body wherever the disease is present, very naturally the word 'tubercular' and in fact the term 'tuberculous' began to be used to designate these morphological appearances. They came to be synonymous and interchangeable. This condition existed generally up until the end of the 19th century.

"Gradually, however, as workers in the field of tuberculosis began to distinguish between 'tuberculous' conditions that were caused by the tubercle bacillus and 'tubercular' conditions caused by something else, . . . it became necessary to have an adjective that would differentiate not so much the appearance but the cause of the tubercle. Hence the term 'tubercular' first came into use among laboratory workers . . . to designate nodular appearances in the tissues . . . that *were not* caused by the tubercle bacillus. At the same time, the adjective 'tuberculous' came to be used exclusively for tubercles or processes that *were caused only* by the tubercle bacillus.

"At the second annual meeting of the National Tuberculosis Association, the necessity for clearly defining these two terms was recognized, and the following resolution was adopted: '*Resolved,* That in the interests of clearness and uniformity of nomenclature the Association employ in its official publications the term "tuberculous" to refer to lesions or conditions caused by the tubercle bacillus and the term "tubercular" to describe conditions resembling tubercles but not caused by the tubercle bacillus.' "

For our own part we object to either the term "tubercular sanatorium" or "tuberculous sanatorium." It is not the sanatorium that is tuberculous. In this sense, we prefer the use of "tuberculosis," as a "tuberculosis sanatorium" or a "tuberculosis patient." This usage corresponds with "diptheria patient," "smallpox hospital," etc. Let us be more careful in the employment of terms. Just possibly there are times when it *might* make a *vital* difference; then it is well to have the habit of proper usage firmly established.

A New Slant on Diet

One of our lay contemporaries recently made the statement that a certain physician "is doubtless worth listening to when she says cancer predominates among the overfed class, whose diet is relatively rich in starches, fats, and proteins." We confess to a certain curiosity to know what the good doctor would have us live on—vitamins, mineral salts, and roughage?

New Light on Heredity

A bulletin of the U. S. Department of Agriculture offers the following note of interest to students of heredity: "An inbreeding experiment at the Beltsville Station has been continued, and up to the present no decrease in vigor or other bad results of any kind have been found among the inbred animals." The trend of current opinion seems to be that inbreeding is detrimental only when it accentuates undesirable traits, and that otherwise there is no reason why it should produce inferior offspring.

Another By-Product of War

That an increased amount of blindness has been one of the results of the World War was stressed at the meeting of the National Committee for the Prevention of Blindness on December 15th by Dr. Park Lewis, of Buffalo. This was due to the contacts made with oriental soldiers suffering from trachoma and other infectious eye diseases during the fighting, and also to the release of prisoners kept under insanitary surroundings.

Dr. Lewis announced, also that Dr. Hideyo Noguchi, a Japanese working under the direction of the Rockefeller Institute, has succeeded, after years of research, in isolating an organism by which he produces trachoma in the eyes of the monkey. "This is of signal importance, although we may have far to go before the curative sera are developed. But this is another thread running through the warp of the structure that is binding the nations closer together."

MEDICOLEGAL NOTES

The 1928 Registration.—The registration blanks for 1928 have all been mailed by the State Department of Public Instruction. The fee has not been changed, and remains at one dollar for the next two years. It is most important that you return your blanks and fee *at once,* before you mislay the blank. You cannot legally practice in Pennsylvania if this duty is not attended to promptly, and you will be subject to prosecution if you fail to comply with the law. Do not postpone this till tomorrow. You might forget it then.

New Automobile Laws.—On January 1st a new automobile code went into effect. Owners and drivers of cars should be careful to familiarize themselves with the new provisions, which are designed to render the roads safer and to make the accepted procedure conform more closely to that of neighboring states.

National Conference On the Reducton of Crime.—At this conference, called by the National Crime Commission, in November, one of the sessions that attracted considerable attention, according to the *Mental Hygiene Bulletin,* was devoted to a consideration of the substitution of scientific mental examination of prisoners for the present system of paid expert medical testimony. Dr. Winfred Overholser, who is in charge of such examinations, as established by law in Massachusetts, described the results of this law to date: "Since the law has been in force, 382 prisoners have been examined, including 201 indicted for first-degree murder. Of these, 31 were found insane by the examining physicians, 34 were found to be mental defectives, and 12 with psychopathic personalities. In all, 85, or 22 per cent, were found clearly or suggestively abnormal mentally. Of those found insane, there was only one forced to trial by the presiding judge, who declared him sane and sentenced him for manslaughter. In a few months this prisoner became violently insane and was sent to a hospital. Some of those held to be mentally defective were also tried and jailed despite our findings and warning of a likely repetition of crime after release." The cost of administering the new law up to the present time, Dr. Overholser reported, has been only $3,051, or much less than the cost of a single murder trial. Coöperation from prosecuting and defense lawyers is progressively increasing.

Dr. Frank E. Williams, at the same meeting, said: "The day of the so-called expert in criminal trials is past. Judges must fit punishment to the criminal rather than to the crime, and to do this they must have more facts than they can obtain through the 'expert witness.' . . . All the resources of modern psychiatry and psychology are necessary, and these should be available

to the court through the possibility of appointment of psychiatrists from qualified lists who shall be given opportunity for thorough psychiatric examination, using such aids as are used by accredited clinics and hospitals, with obligatory written reports and a remuneration from public funds. This process allows of no 'letting off' of the prisoner on the ground of an actual or supposed 'irresponsibility.' "

New York State Crime Commission.—This commission held a public hearing in November to consider the psychiatric point of view of the crime problem. The "psychopath" was singled out as the greatest trouble-maker of society, according to the *Mental Hygiene Bulletin.* Neither insane nor feeble-minded, this individual is yet distinctly psychopathological, and of a type of personality make-up concerning which the psychiatrist can often make predictions as to crime, delinquency, or other abnormal behavior. The opinion was unanimous that the criminal psychopath should be committed to a separate institution and not released unless and until a thorough psychiatric examination showed there would be no danger to the community in such action. It was also suggested that all defendants claiming irresponsibility for their criminal acts on the grounds of "insanity" be sent to the Matteawan State Hospital for a period of observation and study.

State Ruling on Aid to Two Hospitals.—The State Attorney General's office has ruled that appropriations of $16,000 to the Medico-Chirurgical Hospital and of $104,000 to the Polyclinic Hospital, both combined with the University of Pennsylvania, may be paid so long as they are conducted as separate institutions, although housed in the same building. If the identity of the two institutions is lost, the appropriation will not be available to the larger institution which has absorbed them.

PUBLIC HEALTH

Reports on Pennsylvania Morbidity.—Through the courtesy of the Bureau of Vital Statistics of the Pennsylvania Department of Health, we are enabled to present each month reports of the current morbidity in prevalent diseases. This will provide a ready means of comparison between various localities. It is hoped that a certain amount of friendly rivalry will be aroused by the monthly publication of these statistics.

MORBIDITY IN PENNSYLVANIA IN NOVEMBER, 1927

Locality	Cases					
	Anterior Poliomyelitis	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Allentown	1	36	1	34	1	17
Altoona	..	1	3	37	....	2
Ambridge	..	19	55	10	....	....
Beaver Falls	..	....	1	4	....	....
Bethlehem	..	5	....	19	....	14
Berwick	..	....	....	....	....	....
Braddock	..	....	....	2	....	....
Bradford	..	1	325	....	....	....
Bristol	..	....	....	1	....	....
Butler	..	....	....	3	....	....
Canonsburg	..	1	1	....	....	....
Carbondale	..	5	33	....	....	....
Carlisle	..	1	....	....	....	2
Carnegie	..	1	....	....	....	....
Carrick	..	....	....	....	....	....
Chambersburg	..	....	....	1	....	....
Charleroi	..	....	2	....	....	....
Chester	..	6	....	1	1	1
Coatesville	..	1	1	4	....	....
Columbia	..	....	....	....	....	....
Connellsville	1	1	....	1	....	....
Dickson City	..	5	....	2	....	....
Donora	..	5	44	....	....	....
Du Bois	..	1	....	3	....	1
Dunmore	..	....	....	....	....	....
Duquesne	..	2	52	2	....	....
Easton	..	3	1	1	1	....
Erie	2	40	8	99	....	3
Farrell	..	1	....	1	....	....
Greensburg	..	1	1	3	2	....
Harrisburg	..	3	....	8	....	3
Hazleton	..	....	2	1	....	5
Homestead	..	9	....	3	....	....
Jeannette	..	2	1	3	1	....
Johnstown	1	4	....	19	1	1
Lancaster	..	9	32	2	....	25
Lebanon	1	2	....	1	3	....
McKees Rocks	..	14	3	4	....	....
McKeesport	..	1	10	9	1	4
Mahanoy City	..	1	1	....	....	....
Meadville	..	....	....	....	....	....
Monessen	1	6	230	15	....	....
Mount Carmel	..	1	....	....	....	....
Nanticoke	..	....	....	....	....	....
New Castle	..	5	....	1	1	1
New Kensington	..	....	1	3	....	3
Norristown	..	6	....	2	....	....
North Braddock	..	2	....	3	....	....
Oil City	..	1	1	....	....	....
Old Forge	..	1	....	....	....	....
Olyphant	..	3	....	....	....	....
Philadelphia	8	197	9	283	11	110
Phoenixville	1	1	....	1	....	....
Pittsburgh	8	245	409	129	4	31
Pittston	..	4	....	1	....	2
Plymouth	..	3	1	....	1	....
Pottstown	..	2	....	1	....	....
Pottsville	..	....	....	5	....	....
Punxsutawney	..	....	....	5	....	5
Reading	..	24	5	24	1	5
Scranton	..	72	2	18	2	12
Shamokin	..	14	1	7	....	2
Sharon	..	....	....	....	....	1
Shenandoah	..	....	....	1	....	....
Steelton	..	....	....	....	....	....
Sunbury	..	....	....	....	....	....
Swissvale	..	8	2	3	....	....
Tamaqua	1	....	....	4	....	....
Uniontown	..	....	1	....	2	....
Warren	..	....	....	19	....	8
Washington	..	2	....	....	....	14
West Chester	..	....	....	1	2	....
Wilkes-Barre	..	20	31	7	....	7
Wilkinsburg	3	4	1	3	....	2
Williamsport	..	2	....	2	....	27
Woodlawn	..	....	....	3	....	1
York	..	1	....	3	....	1
Total Urban	28	805	1,271	822	35	310
Total Rural	42	382	464	804	97	401
Total State	70	1,187	1,735	1,626	132	711

An Accounting of the Health of the People of the United States, in so far as Federal duties and responsibilities are concerned, is given in the annual report of the Surgeon General of the Public Health Service, which has just been transmitted to Congress. The Surgeon General says that through modern developments in public-health organization—national and international—it is now practicable for the country to keep informed of the prevalence of epidemic diseases and of the health of populations throughout the world. This knowledge is of considerable importance in preventing the introduction of dangerous communicable diseases into the country from abroad. "Health conditions generally throughout the world were better during the year ended June 30, 1927, than for any previous year on record," says the report. "The first half of the year was characterized by unusually low death rates in foreign countries. The most serious condition that interposed to prevent even lower mortality rates in Europe was the epidemic of influenza which affected a considerable area of that part of the world. The health of the people of the United States was generally good during the year as compared with preceding years. The death rate for all causes for the calendar year 1920 in twenty-eight States was 12.1 per 1,000 population. This was slightly higher than the rate for 1925, which was 11.7."

Examinations of School Children by the Division of Medical Inspection of the public-school system of Philadelphia are being made in coöperation with the Phipps Institute in an effort to discover predisposition to tuberculosis in school children. If the results of the test in an individual pupil justify care in his treatment, the child is placed in a special open-air classroom, and is allowed two hours of rest daily, one in the middle of the forenoon and the other in the afternoon. It was pointed out by Dr. Walter S. Cornell, director of the Division of Medical Inspection, that a child who actually has tuberculosis is not allowed to go to a regular public school. Examinations and treatment are for those children who have been made likely victims of the disease by malnutrition or other unfavorable conditions.

Work of the Rockefeller Foundation in 1926.—During 1926 the Rockefeller Foundation, in disbursing $9,741,474, (1) aided the growth of fourteen medical schools in ten different countries; (2) maintained a modern medical school and teaching hospital in Peking; (3) assisted the development of professional public-health training in fifteen institutions in twelve countries and in ten field stations in the United States and Europe; (4) contributed to nurse training schools in the United States, Brazil, France, Poland, Yugoslavia, China, Japan, and Siam; (5) sent, as emergency aid, journals, books, or laboratory supplies to institutions in twenty European countries; (6) helped twenty-one governments to combat hookworm disease; (7) gave funds to organized rural health services in 244 counties in the United States and to 34 districts in twelve other countries; (8) shared in the creation or support of various departments in state or national health services in sixteen countries; (9) coöperated with Brazil in the control of yellow fever, or in precautionary measures against the yellow-fever mosquito, in ten states; (10) continued yellow-fever surveys and studies in Nigeria and on the Gold Coast; (11) aided efforts to show the possibilities of controlling malaria in nine North American states and in Porto Rico, Nicaragua, Salvador, Argentina, Brazil, Italy, Spain, Poland, Palestine, and the Philippine Islands; (12) helped to improve the teaching of physics, chemistry, and biology in eleven institutions in China and in the government university of Siam; (13) supported the Institute of Biological Research of the Johns Hopkins University, and contributed toward the publication of *Biological Abstracts:* (14) gave funds for biological or mental research at Yale University, the State University of Iowa, and the Marine Biological Station at Pacific Grove, California; (15) provided, directly or indirectly, fellowships for 889 men and women from forty-eight different countries, and paid the traveling expenses of sixty-nine officials or professors making study visits either individually or in commissions; (16) helped the Health Committee of the League of Nations to conduct international study tours or interchanges for 120 health officers from forty-eight countries; (17) continued to aid the League's information service on communicable diseases; (18) made surveys of health conditions, medical education, nursing, biology, or anthropology in thirty-one countries; (19) lent staff members as consultants and made minor gifts to many governments and institutions; (20) assisted mental-hygiene projects, both in the United States and in Canada, demonstrations in dispensary development in New York City, and other undertakings in public health, medical education, and allied fields.

Enteric Fever Situation in the World.—According to an epidemiologic report of the Health Section of the League of Nations Secretariat, there were 3,878 cases of enteric fever reported in the United States during the four weeks ending July 30, as compared with 3,493 cases during the corresponding period of 1926. The following tables taken from the same report provide an interesting comparison between sections of our own country and other lands:

MORTALITY IN 1926 IN LARGE TOWNS OF THE UNITED STATES GROUPED ACCORDING TO GEOGRAPHICAL DIVISIONS

	Rate per 100,000
New England	1.5
Middle Atlantic	2.1
South Atlantic	5.4
North Central	1.8
South Central	12.7
Rocky Mountain and Pacific	2.0

MORTALITY FROM ENTERIC FEVER IN VARIOUS COUNTRIES IN 1926

	Rate per 100,000
England and Wales	0.9
Scotland	0.8
The Netherlands	1.8
Switzerland	1.5
Germany	1.8
Czechoslovakia	8.2
Spain	21.5
Canada	5.0

Mothers Die—Babies Are Saved.—Of the total number of married women in the State of New York between 15 and 44 years of age who died in 1924, one out of every five died from a cause connected with childbirth. Upstate, in this population group, even heart disease caused fewer deaths than childbearing, tuberculosis alone being a greater cause of death. Though there was a gratifying reduction in the death rate from puerperal septicemia, particularly in New York City, there was a marked increase in that city in the death rate from accidents of pregnancy and other accidents of labor. Moreover, there has been practically no reduction in the maternal mortality in this State in the last ten years. In the birth registration area of the United States in the twenty years previous to 1925 there was an actual increase in the rate.

Meanwhile, in this State, in the last ten years the general death rate has declined 15 per cent. and infant mortality 30 per cent. This accomplishment is due to better care given by the *mothers* in the homes under the instruction of the physicians aided by public-health nurses. *The mothers* gave the care that saved the babies. *But a mother in labor cannot give herself the care that will save her life.* To the *husband* falls the obvious duty of seeing that she has it. No husband would have his wife die in childbirth. The husband is in the same position to-day in regard to understanding his duty to his wife as the mother was a decade and more ago in regard to knowing what was her duty towards her baby—he needs to be shown.—*Health News,* New York State Department of Health.

PHYSIOTHERAPY

Indoor Heliotherapy.—An achievement worthy of note is the perfection of a type of "glass" which permits the ultraviolet rays of the sun to pass through it. That the advancement of such a product on a commercial basis has been received with much favor is well exemplified by the fact that owners of many prominent structures now being erected have contracted for this new kind of window.

The public at large fully realizes that the use of the sun's rays is a valuable adjuvant in the treatment of disease. More than its curative value is its preventive possibilities. Much has been written on this latter phase, but more remains to be studied and worked out on a scientific basis. The great danger now lies in the promiscuous employment of irradiations improperly timed and indifferently applied for everything that is called an ailment. While it is true that sunlight and more especially ultraviolet energy is more productive of good than harm, nevertheless it must be admitted that its use therapeutically must be based on a definite rationale if the scientific side of medicine is to be considered.

In this connection it is well to emphasize the importance of careful study of the patient by a physician, and if ultraviolet energy is prescribed, that the directions be given by one familiar with its administration. The source of the energy is rather immaterial. One must know, however, the possible effects from the source employed during a given time exposure. There are those who hold also that the action of sun treatment is not due to the ultraviolet energy alone, but to that of the entire spectrum.

It is not the purpose of these remarks to tell what all the favorable actions of ultraviolet rays are. Too much has already been said in the medical literature, and an abundance of conglomerate material has appeared in the lay press. Time will eventually rationalize the results of investigators, and clinicians will then be able to handle the subject more satisfactorily. That there are favorable effects of ultraviolet radiations on metabolism and on certain specific diseases such as rickets and tuberculosis cannot be denied.

It is not for the public, however, to administer the treatment without medical supervision, even if it can be had from natural sources indoors through new types of window glass.—*Archives of Physical Therapy, X-Ray, Radium.*

Modern Trends in Radiology.—Most of the diseases now allotted to irradiation treatment are of unsolved etiology. Hence we have no specific therapy at hand. Second, the reactions of the agent used in treatment are obscure, and in fact have revolutionized all our ideas of physics. Exact physical measurement has been a tremendous problem, now in process of solution by the combined efforts of physicists and radiologists. The roentgen ray is more unstable and difficult to evaluate than radium, but precision is emerging, and now all radiologists compute dosage with fair accuracy by means of some form of ionization measurement. Genuine effort is made to secure cases in an earlier and more curable stage. There is now greater skill in diagnosis, effected by more careful examination and biopsy in all questionable lesions. Obtaining tissue for microscopic study, formerly considered dangerous, is now recognized as an essential step. It is valuable in diagnosis, prognosis, and estimation of biologic effect.

Education of the public through repetition of the earliest symptoms and signs of serious maladies also has accomplished much in urging patients to report earlier for medical attention. Experience has shown that radium is most effective when used in considerable amounts. Energetic massive treatment at the outset gives the best hope of cure. When the disease is so advanced that cure is manifestly impossible, fractional dosage with small amounts insures good palliation. The best radium results are secured at radiologic clinics where large amounts of the element are available. Each state should have a central supply, instead of the work being attempted by many physicians possessing only a few milligrams. Recent innovations have shown much promise. The introduction of gold needles containing emanation for implantation, the gold filtering out the destructive beta rays, have made this phase of treatment more effective and infinitely less painful. In malignancy, at least, radium in sufficient amounts properly applied is more effectual than the x-ray. The biologic effect is greater. However, roentgen-ray therapy is preferable to insufficient treatment with radium. Results at present indicate greatest efficiency by combining radium and x-ray therapy. Radium is the most effective, and is applied topically to the lesion wherever possible, while the x-ray, with its larger portals and crossfiring, covers the surrounding drainage areas.

Finally, the present literature shows a helpful collaboration with other forms of therapy. Ultraviolet radiation is valuable for its tonic effects and stimulation of the hematopoietic system. Medical measures and skillful surgery, especially cautery and endothermic methods, coöperate successfully with radiologic treatment.—*Medical Review of Reviews.*

INDUSTRIAL MEDICINE

Research Board Investigates Industrial Fatigue.—Despite the fact that accurate tests to determine the effect of fatigue are practically impossible, some interesting data are found in the Sixth Annual Report of the Industrial Fatigue Research Board, England. It is found that fatigue has a direct bearing on variation in output and other tests of performance, sickness and mortality, labor turnover, lost time, and accidents. In general, the time required to perform a task decreases after the first hour and then increases again at the end of the day. The number of strokes, pressure, and duration all show a marked tendency to increase, particularly in those operations where more manual than mechanical output is required. It has been found that the more skilled worker is not only on a higher level of output but is steadier, and his output falls later in the week than is shown in the output curves of workers whose skill is less or who are ill-suited to their work.

Sickness as an index to the fatigue of workers is of importance in that it shows unfavorable physiologic conditions. A high rate of sickness in industry indicates that something is fundamentally wrong. The

report shows that sickness is found most frequently in connection with the heaviest work. Particularly was this found true in occupations where light and heavy work were alternated and in occupations where workers were subject to changes of temperature or humidity. The body health of industry can be determined to some degree by its labor turnover. Investigation tends to show that lost time of employees tends to diminish when working hours are shortened. Some manufacturers have observed that shortening of working hours brought about greater output and decreased to a noticeable extent time lost by workers.

That there is a clear relation between efficiency and accident incidence has been observed by many investigators. Individual differences come into play here. An understanding of this fact leads employers to eliminate the susceptible workers from "risky" occupations. Accident incidence is shown to be associated with youth, and minor accidents show a clear relation to minor illness. Temperature is also held as a determining factor in accidents. Minor accidents find their minimum at 67.5° F., increasing above and below that temperature. —*Modern Hospital.*

Lead Poisoning and Lead Absorption.—Briefly summarizing the situation as it now stands, there appear to be those who will not make a diagnosis of lead poisoning unless acute colic is present, while there are others who take the position that the presence of stippled cells in the blood in itself constitutes a sufficient basis for a positive diagnosis—even in the absence of all clinical manifestations of this disease. A large number of intermediate positions have been taken by as many different medical men. From the standpoint of the physicians who are constantly being called upon to make a positive diagnosis of lead poisoning, as well as of those charged with the administration of the Compensation Law, this lack of standardization of diagnosis is most unfortunate, giving rise to considerable needless confusion. It is felt that much progress might be made in the direction of clarifying the situation and standardizing the diagnosis if the term "lead poisoning" were arbitrarily reserved entirely for cases presenting toxic episodes such as acute lead colic, lead palsy, encephalopathy, and the like; the broader and more general term "lead absorption" being used to cover all cases where there is any laboratory or other positive evidence that lead has been absorbed into the body, whether or not this is accompanied by clinical manifestations of the disease.—*Industrial Hygiene Bulletin.*

Goggles for Preventing Eye Accidents.—A mandatory ruling requiring every employee in an industrial shop to wear goggles while at work was advocated by Harry Guilbert, Director of Safety of the Pullman Company, in an address before a joint session of the National Safety Council and the National Committee for the Prevention of Blindness. Such a mandatory rule is enforced in all the repair shops and yards of the Pullman Company, and as a result the eyes of approximately a thousand of their men have been saved from serious injury or destruction. After every other known method had failed to induce the men to wear their goggles, this rule was adopted under pain of dismissal, and it is now enforced not only with respect to employees, but just as stringently with officials of the company and visitors.

As an indication of the economic reasons for drastic measures to prevent industrial eye injuries, Mr. Guilbert declared: "In Pennsylvania alone the sight of 6,842 eyes has been completely destroyed in industrial accidents since 1916. From January 1, 1927, to date, 383 eyes have been made useless through accidents in the industries of Pennsylvania ranging from coal mining to restaurant work. In one year the employers of Pennsylvania paid more than $800,000 in compensation for eye injuries, and this represents a total economic loss of close to $5,000,000."

The Pullman Company has spent about $75,000 for eye protection, and it is the only company where the wearing of goggles is universally enforced.

HOSPITAL ACTIVITIES

Does This Admit Blame?—A superintendent recently raised an interesting question which, perhaps, can best be answered by some institution in which such a happening developed: "Should a hospital give its services free to a patient who contracts a contagious disease while in the hospital and thus is compelled to remain for an additional period? Would the granting of such a rebate be admitting liability or blame?—*Hospital Management.*

Should the Hospital Recommend Any Individual Undertaker to Inquiring Relatives?—There is probably no hospital in the land in which the above problem, in some form, has not arisen. Often when a patient becomes critically ill, relatives from a distance are summoned. After the death of the patient these persons frequently find it most difficult to attend to the practical matters that are immediately before them. Indeed, it appears to be a part of the psychology of grief to desire aid in making decisions as to the steps then necessary. As a result, these relatives often inquire of some one about the hospital in regard to securing the services of a suitable undertaker. The question then arises as to the ethics of recommending any individual person or firm to those inquiring. Very often this query is put to a member of the social-service staff, to a nurse, to a doctor in the hospital ward, or to some office attaché.

Now, it is the duty of the hospital not only to do everything possible for the sick, but also to alleviate the grief of relatives, and to guide them through the difficult hours succeeding the death of a patient. But it cannot be denied that unethical undertakers too frequently make a definite arrangement with some hospital employee to act as their agent on the grounds. In one hospital it was found that members of the ward personnel were deliberately seeking patronage for a certain undertaker in the locality. Rightfully, this practice was stopped, and those participating in it punished. Such commercialization of the hospital's function cannot be condemned in too strong terms and is unethical in the last degree.

What, then, should be the attitude of the hospital under the above circumstances? When relatives inquire of a physician, nurse, or hospital attendant as to the best undertaker to secure, these persons must be schooled to refer such inquirers to the superintendent's office. When such inquiries come to the superintendent's office, the administrator or one of his coworkers usually obtains a list of the undertakers in the city or locality and states that the firms included therein are skilled and ethical, but that the individual must make his own choice. Sometimes a telephone directory is the source of this information. Ethical embalmers' associations are urging all in their profession to refrain from employing the cheap methods of the ambulance chaser, to secure business for themselves. It is suggested, when a hospital superintendent learns that any particular undertaker is securing a large number of calls

from his institution, that he quietly investigate the source of these calls. Should he find, for example, that the clerk whose duty it is to execute and record death or insurance papers is in any way concerned with the summoning of any particular undertaker, he should immediately dispense with the services of the officer. Any attempt to control the business of caring for the bodies of the hospital's former patients, whether it has a political, religious, fraternal, or any other source, must be definitely and unerringly put down.—*Modern Hospital.*

Reports in Newspapers of Routine Hospital Service.—Recently instances have been noticed in which two small-town hospitals are involved. The local newspapers demand that the hospitals furnish them with the names and other information about every patient admitted. This is published under a heading, "Hospital Report," or similar classification, in much the same manner as livestock prices might be given. One superintendent, taking over one of the hospitals after a radical change in the organization, has protested against this meaningless publication of hospital admissions, few of which are of any interest outside the families and close friends of the patients. Many patients and physicians object to the publication of such information, and still the newspaper insists that the items be regularly furnished, and terms the attitude of the superintendent as narrow and "uncoöperative." The paper threatens to take a hostile attitude, and already has refused to publish items concerning graduation, shortage of beds, and several other matters that surely should be of interest to many in the community. The attitude of this superintendent is to be commended, and it is to be hoped that she will succeed in her efforts to convince the newspaper that it is not within its rights in demanding the information as it does. The average person would not care to have his name and illness broadcast, and in the average instance, it is not "news." Where a patient is widely known and in a critical condition, the public may be entitled to know of his condition, and victims of accidents and injuries also may be objects of public interest for several days after they have been hurt or wounded. In such cases the hospital should endeavor to supply the information as requested. But as a routine matter, the giving out of information is to be vigorously condemned, and the superintendent who is so persistently combating the newspaper in this instance should receive the encouragement of her community. This could be stimulated if each person were to picture himself or herself a hospital patient whose name and illness were being demanded daily by a newspaper.—*Hospital Management.*

A Circulating Library Service throughout the hospital wards of Philadelphia has been established by the Young Men's and Young Women's Hebrew Association in response to appeals for books for patients in the various institutions. With the coöperation of the hospital authorities, books and current magazines are placed in the wards for circulation among those who are ill. In that way hundreds of men and women who want the diversion of books, but who are in no position to secure them for themselves are given the opportunity to read. A regular circulating library on wheels is pushed through the wards each week, and, according to the librarian, the smiling faces which greet her appearance is sufficient proof of the success of the service. Hospital authorities have placed this innovation in the same category with occupational therapy, and declare it is a great help, especially when patients are convalescent. The post office is contributing its unclaimed current magazines for the hospital libraries, and the Hebrew Association has taken books from its own library to help provide a good selection of reading matter.

REPORT OF THE TRISTATE CONFERENCE

The following is an abstract of the minutes of the Tristate Conference held at Atlantic City, N. J., October 22, 1927.

The representatives present from Pennsylvania were President Arthur C. Morgan, Trustee William T. Sharpless, and Editor Frank C. Hammond.

Following the introductory welcoming remarks, the presiding officer, Dr. Walt P. Conaway, president of the Medical Society of New Jersey, announced that the special subject for consideration at this meeting would be the "State Control of Private Hospitals," and that this topic would be presented by Dr. J. Bennett Morrison, of Newark, N. J., secretary of the Medical Society of New Jersey.

Dr. Morrison: The subject of some form of proper supervision and control of the small private hospitals in our own State has been uppermost in my mind for a considerable length of time. My position, as recording secretary of our State Medical Society, brings to me complaints from many sections of the State regarding this type of institution. These complaints and inquiries cover many aspects of the so-called private hospital, such as personnel of the staff, character of work performed, the death rate, legality of some forms of treatment, character of the buildings and equipment, the sanitary conditions, and the fire hazards.

For many years the care of the individual as he is affected through the avenues of immigration, transportation, and navigation; the supervision of food handlers, food carriers, and packers; the inspection and control of potable waters and sewage; the control of contagious diseases and other public-health dangers have been placed under State or municipal control. Provisions have been adopted for supervision of the fire hazard and for the sanitary conditions of schools, theaters, and all public buildings. Institutions and hospitals of the larger size have all been placed under some form of supervision and control. But the smaller hospitals, the so-called private hospitals, those organized by private individuals, either for convenience in the care of patients, or for their own profit, are without any kind of proper supervision, inspection, or control.

The hospitals of large size, public and semipublic, are chartered. Where they are supported by public funds, in whole or in part, or where they are endowed, their books and records are open for some inspection, and the degree of publicity thrown around them is a factor in their proper upkeep and in the manner in which such institutions are conducted. All such hospitals, and those of one hundred beds or over, and many of a capacity of fifty beds or over have been inspected and supervised by the American College of Surgeons. The improvement in all these institutions since such supervision was instituted has been recorded in our literature on many occasions. The physical quality of the plants, the personnel of the staffs, equip-

ment and other conditions in the hospitals, have been markedly improved. The slogan "the care and interest of the patient, first, last, and always" has been well put over.

The smaller hospitals where this supervision is not carried out are far from being a credit to our profession. It is for this reason that the New Jersey members of this Tristate Conference decided to bring the matter up today for discussion. Within the ranks of organized medicine there is probably nothing of a controversial nature in connection with this subject. There need be no speculation on the necessity for, or an analysis of, the reasons leading up to its presentation. We are simply making a plea for the proper supervision of those institutions in our three contiguous States where human lives hang in the balance, where grave medical and surgical conditions are treated by physicians, some of whom we believe have not the necessary education and experience to care for patients properly. We question whether the equipment in many of these hospitals is adequate. We doubt whether the fire hazard and sanitary conditions in many of these institutions render them safe for occupancy by the sick or disabled. In some of these hospitals, we are led to believe that medical and surgical treatment is administered in ignorance of the very cardinal principles of anatomy, pathology, surgery, and asepsis.

In some other types of these so-called hospitals, the freedom and the lack of moral responsibility with which some men operate upon or treat patients is almost beyond belief. The results, if they were known, would be appalling, but being unknown except to those who suffer, reflect upon the reputation of the entire medical profession, for the ignorant portion of the public cannot do else than class us all together.

The records in some of these hospitals are accessible only to the county prosecutor, and then only in case of criminal action.

These private hospitals, especially in this era of unprecedented prosperity, are springing up like mushrooms, over night. Those of us who are interested in surgery have seen the incidence of surgical procedure increase almost a thousandfold in the last fifteen years. The numerous indications for relief by surgical means, at the hands of those competent to perform surgical operations, and the successful outcome of such treatment has induced many people to seek promptly this method of relief. The general public cannot always make proper selection of a competent, conscientious surgeon. The fact that a doctor conducts a private hospital places him, in public opinion, in the front rank of surgeons.

We find these places running in full force in many localities. Stories of abortions, of incompetent surgery, of unnecessary operations, of operations on what we would call inoperable cases, of morbidity, of women dragging a chain after them all the remainder of their lives because of these procedures, are coming to the attention of almost every prominent man in the profession.

It is high time that the regular profession institute steps to put an end, so far as possible, to these abuses. It seems to us, after a careful study of the matter, that this can be accomplished only by placing all such institutions under state control. We anticipate, however, that the argument that such a course will lead to "state medicine" will be immediately raised. This argument will be advanced mainly by those who are afraid to have the light of publicity thrown on their institutions and methods. If these places are brought under state supervision and inspection, it will not lead to state medicine any more than has the registration of physicians, or the establishment of state boards of health, or the placing of our public institutions under the state board which in New Jersey we call the Department of Institutions and Agencies.

Considering the remedy as applicable to our own State, we in New Jersey propose that steps be taken to provide that these private hospitals shall be placed legally under the supervision and control of our State Department of Institutions and Agencies. This would immediately give the subject an aspect of State supervision, rather than control by the medical profession. It will at the same time disarm a great deal of criticism, and close some of the avenues for unjust and acrimonious debate. Such a step will immediately make it justly appear that the State is instituting this supervision in the interest of the general public.

We wish it to be distinctly understood that we do not propose to limit in any way the number or the legitimate scope of private hospitals. In our modern civilization, existence of these institutions is absolutely necessary. We live here in a rapidly growing industrial section of America. The population of the States of New York, Pennsylvania, and New Jersey is increasing rapidly. Almost every section of these three States is underhospitalized. This is true even of the larger cities and towns, and in rural communities the hospital facilities are meager. A recent survey of patients treated in hospitals in America shows that *forty-three per cent* of our people applying to hospitals for treatment are now being cared for in these small hospitals. We believe, therefore, that such institutions are an absolute necessity.

No opposition to such a plan as is here suggested will come from physicians who conduct reputable private institutions for the care and treatment of the sick and disabled. They should rather welcome some such supervision; it will make a distinction for their hospitals and increase their work to capacity; the public will know that the State has given them special recognition. The opposition will come from those men who fear the light of pitiless publicity.

Last year, a bill was passed in our Legislature to provide for "the licensing of private nursing homes for the care, treatment, and nursing of persons ill with disease, or who are crippled, infirm, or in any way afflicted." Its purpose is to license "private nursing homes." As such, it is an excellent measure, and we commend the Department of Institutions for the regulations they have compiled for enforcement of the act. For the purposes outlined in this argument of mine, the bill does not go far enough. We would seek legislation covering the very institutions excepted in this act, and we would suggest that no legislation can be effective unless the act establishing it has some enforcement provision and some penalty for nonobservance.

If this discussion today leads to the adoption of measures looking toward effective legislation, we would suggest that the registration fee shall be high enough to create a fund sufficiently large to set up a department with all the necessary requirements for thorough investigation and inspection, for records must be kept and filed, inspectors hired, office assistance installed, and much necessary printed material provided. All this will cost considerable money, and the traffic should bear the expense. The fee should, in my opinion, be not less than $100.

We would propose that *wherever possible* a member of the American College of Surgeons and a member of the American College of Physicians shall be a mem-

ber of the staff in such hospitals of twenty-five or more beds. Of course, this could not be done at once, but the department should keep this desirable provision in view all the time, so that the standing of the staffs may be constantly elevated. Consultation with the State Medical Society and the American Medical Association will secure a rating for every physician in the country. Every member of the staffs of such hospitals should be a member of the state and county medical societies. There are many instances where this is not so today, and there are also instances where men who have been refused positions on the staffs of incorporated hospitals and have had their request to treat patients in open hospitals declined, have set up these private institutions where they may prey upon the innocent public without any supervision whatever and without even such check as is afforded by the opinion of the regular profession.

Provision should be made that proper histories and records be kept, similar to those required by the American College of Surgeons in hospitals which they standardize, and that these records be open to inspection at all times. Failure to carry out this regulation should be ground for instantly closing an institution. The death rate, which in some of these places runs as high as ten per cent, should be investigated. Investigation should be made of the class of patients subjected to operation, so as to prevent inoperable cases being taken to the operating table solely for a fee. In time, the American College of Surgeons will supervise these hospitals, but that will not be possible for many years. It must be done now by some special board of authority in each of the respective States.

It is a well-known fact that many of these hospitals are housed in buildings that are veritable fire traps. The institution of fire escapes, fire extinguishers, and fire sprinkling systems should be made compulsory. Municipal fire commissioners should notify the Department of Institutions when, in their opinion, such buildings are unsafe.

Ample provisions for ventilation, light, and the proper amount of air space per bed should be required, and overcrowding prevented. A room should be reserved for the care and treatment of such cases of contagious disease as may arise in emergency.

Every building or portion of a building where more than one patient who is not a member of the family is treated for more than a few hours should be designated a "private hospital" or "clinic," and provision should be made in the law for closing such buildings by police measures if they do not comply with the regulations set up by the Department of Institutions. The law should impose a penalty of not less than $1,000 upon all persons who conduct one of these hospitals or clinics without having taken out a license within a reasonable time after the law becomes effective. Provision should also be made in the law for the imposition and collection of the penalty.

This supervision by legislation is urged in the interest of the general public which, in many instances, suffers at the hands of those who conduct such uninspected and uncontrolled institutions. It is also urged for the protection of reputable surgical and medical treatment in our respective states.

DISCUSSION

Dr. J. E. Sadlier, President of the New York State Medical Society: This is a very important subject for discussion, and I have endeavored to make something of a study regarding the laws governing it. Dr. Lawrence, the executive officer of our State Medical Society, wrote to the departments of health in practically all states of the Union, in an endeavor to get for me definite information with reference to the matter of control over private institutions. That effort upon our part showed that there was a very general lack of state control, not only in the three states represented here, but all over the United States. The only essential exception is that in quite a percentage of the states, maternity hospitals are controlled by legislation to a considerable extent, irrespective of their size. Another form of control, applying especially to the maternity institutions, was rather indirect; namely, that those institutions which had training schools or were under control of the Regents of the New York State Board of Education necessarily had a certain amount of inspection from the standpoint of the nursing efficiency in the institution.

My own personal observation with reference to private hospitals (and in speaking of private hospitals I assume that we all are considering the privately owned institutions, whether run for profit or otherwise—usually small profit, though they may be rather large in size) is that they may be divided into three classes: (1) A type that is rendering efficient and excellent service to a community wherein it is needed, conducted by a regular physician, surgeon, or obstetrician, according to the kind of work done. It is usually located in a community where there is otherwise inadequate hospital service. Many times such a hospital forms a nucleus for the development of a larger public institution which continues to serve the community. I have knowledge of a considerable number of privately established and privately owned institutions which have done splendid constructive work in the development of surgery in their particular localities. (2) The type established usually by a rather inferior grade of physicians or surgeons, especially by men who desire to practice surgery without proper preparation, or at least, to develop some specialty for which they have not given proper time and attention to preparation. Such institutions, in so far as I have known about them, do a very inferior type of work. The quality of this surgical work is usually a menace to the people of the community. I recall a remark by that pioneer gynecologist of Pennsylvania who passed into the "Great Beyond" some years ago, Dr. Joseph Price, with reference to the junk surgery developing here and there over the country, that he was seeing many cases that had been improperly treated and then left for reputable surgeons later to endeavor to repair. In this second type of private hospital, we see that kind of work going on. (3) The type in which there is every reason to believe a criminal class of work is being done. The most reprehensible thing that any community, county, or state can have within its borders is that sort of nefarious institution.

I assume that the first type (the institution that is of value to the community, that is a distinct asset) represents a condition somewhat similar to what in Great Britain is known as the nursing home, an established institution in that country. The work is perhaps very well done in those institutions, and we know that a large proportion of the better class of people in Great Britain are cared for in these nursing homes. Of the three types that I have mentioned, the first is the only one which should be countenanced by the state, and legislation should in no wise interfere with that class of institutions. They have not interfered with legislation. In fact, they would welcome it, because it would give them their proper standing.

I cannot but feel, with reference to this whole subject, that the American College of Surgeons, with its beneficent influence, will in the end be a very great factor. The College must recognize the formidable condition which exists in the private hospital. As to the increased number of which Dr. Morrison spoke, I had felt otherwise with reference to our State. As I have traveled over New York, it has seemed to me that the number was decreasing. I cannot see wherein registration will be any hindrance to the type of hospital that does good work, it matters not whether it pays $100 or $500, but I can see where that money collected would be of inestimable value to the State in carrying on the work of the commission under which such hospitals were registered.

Dr. A. C. Morgan, President, Medical Society of the State of Pennsylvania: Dr. Morrison has given us a very practical topic for discussion. Immediately upon receiving an invitation to take part in the discussion, I began to write letters, and I have replies from the Pennsylvania State Secretary of Health in which he mentions that there is no law in our State governing private hospitals. The president of the Pennsylvania State Board of Medical Education and Licensure advises me as follows: "The hospital physician is protected in his activities only by the license which he holds to practice medicine. If the activities of his hospital reflect upon his license, this may be revoked, and his activities stopped. If the hospital is not incorporated the responsibility rests upon the man who takes charge of it."

The Secretary of Public Welfare of our State writes: "All hospitals receiving State aid are subject to inspection from practically three sources: The Department of Welfare has supervision over their expenditures and determines the amount of money they receive from the State by the number of free hospital days of service: the Board of Medical Education and Licensure standardizes the hospitals as to whether or not they will be acceptable for internship; and the Board of Examiners for the Registration of Nurses standardizes them in regard to whether or not the graduates of their training schools will be competent to take the examination for registered nurses."

From the Legal Department we have: "Any individual can open private hospitals."

Discussing Dr. Morrison's paper direct, I approve of his recommendation as to the desirability of registering and licensing all private hospitals. Setting the license fee high is very much approved for two reasons: (1) because it is a challenge to the men or individuals who want to start a hospital; (2) because it will have very great weight when we present any proposed bill to the Legislature. If we present a bill requiring an outlay of money, the Legislature looks askance. However, if we propose a bill or law that will be self-sustaining or nearly so, then the Legislature will look at us in a more kindly manner. That is a point of practical politics which must be borne in mind.

As to the provision that the surgeons on the staffs shall be members of the American College of Surgeons, I disapprove of that for the following reasons: I have in mind two reputable hospitals in Pennsylvania, one in a town of probably 10,000, the other in a town of 15,000 inhabitants, both of them drawing from large surrounding rural districts. The surgeons, who are competent men, delightful men, honorable in every particular, have not been able to get into the American College of Surgeons or the American College of Physicians. It is alleged that there has been some personal animus on the part of the neighboring surgeons in two instances, and I think the allegation is fairly well founded and that personal petty jealousy has debarred these men from membership in the American College of Surgeons, thereby carrying the so-called stigma, whether it may be much or little, of nonmembership. These instances can be duplicated, I am sure, and repeated many times in our own State.

Again, I feel that the American College of Surgeons would possess too much centralized power that could in time be wielded for purposes not altogether satisfactory to local communities. I know personally that the Association of American Medical Colleges, in their inspection of medical institutions, have inspectors who travel around with but one thought of academic interest in the institution to be inspected, disregarding entirely and discounting any information that might be supplied to them with regard to peculiar local situations. They measure it by the cold yardstick, the "Prussian idea," of medical education as introduced into the United States in 1904, increasing centralized power and making possible the use of power that may not be to the benefit of the local hospital or institution. Instead of being controlled by the American College of Surgeons, I feel that the medical societies of the respective states can more safely be trusted to be the arbiters of classification of the various institutions that exist or that want to be chartered in a state.

All books and records should be open to examination and inspection by the state secretary of the department having direct control of hospital activities. In Pennsylvania, that office would be performed by the Department of Public Welfare. Nearly all of the small private hospitals are a part of a dwelling house, either with the surgeon living in one part, or a remodeled dwelling house that does not lend itself well to hygiene, sanitation, protection from fire, segregation from noise, and availability of pure water. That is a point well worth considering.

Provision that the members of the staff shall be members of the state and county medical societies is approved. If personal animus should creep in with regard to any local hospital, a man who is debarred from a county society has the right to appeal through the state society to the American Medical Association. If he presents his case in a satisfactory manner, he can be given membership at large in the American Medical Association. If the charge is not sustained, and thereby the members of the local county society are proved to be actuated by unjust motives, then the reflection rests upon the county society, and that organization would appear to be in need of investigation.

I agree that pitiless publicity is one of the main checks upon any institution, organization, or individual. I would also have Dr. Morrison include in his discussion medicine as well as surgery. The attitude outside seems to be that when a hospital is organized, or if a hospital is available, it is only for surgical cases. The average in the ordinary hospital is 67 per cent of surgery and 33 per cent of medical cases. The purpose of a hospital is to provide a centralized place where sick people, whether surgically or medically ill, can be taken and cared for, and restored in the best and quickest manner to their usual walk and place in the civic community and to their industrial surroundings.

This discussion is very important and timely, and the lesson to be drawn therefrom is that we should endeavor to influence our respective legislators in this matter, and at the next session of the Legislature have bills introduced in each state looking toward the regulation of these hospitals.

Dr. William T. Sharpless, Chairman, Board of Trustees, Pennsylvania. I practice in a country community where we do not have many private hospitals. We have a few convalescent homes and nurses who take in patients, but there is nothing in our immediate neighborhood that comes under the classification of any of those institutions which Dr. Sadlier has mentioned. The disposition toward group practice promotes the establishment of private hospitals. Where a group of doctors get together, they are apt to establish their own hospital and not send their patients to a large institution. The question of securing proper legislation is a very serious one and a very difficult one, as we know in Pennsylvania, and much missionary work will have to be done before a large degree of regulation can be established in our State.

Dr. Frank C. Hammond, Editor, Atlantic Medical Journal, Pennsylvania. The problem that Dr. Morrison has brought up is one of the greatest we have to meet. The privately owned hospital must be considered in its various aspects: (1) the physician who maintains a hospital for his own work, medical, surgical, and anything that he can take into it; (2) the hospital owned by a physician who permits others to bring patients in, in which case he is supposed to have control as to those allowed to treat patients in his hospital; (3) the hospital owned by a corporation—that is, a group who get together, buy stock, and start a private hospital which is run primarily from a commercial standpoint, with a view to the largest returns from the investment. A hospital of the latter type almost invariably has as the superintendent in charge a graduate nurse, who may or may not be interested financially. There are also private hospitals of the type in which a physician or a group of physicians may have full control of the stock and of the running of the hospital, where any one is permitted to bring patients for the type of work which the hospital is equipped to handle. Private hospitals may be devoted to medical work or to maternity cases, others will take in any type of patient that is received in any general hospital. Accordingly, all types of privately owned hospitals must be considered.

I have discussed this with some individuals who are in control of privately owned hospitals, and they desire to run their institutions with the highest possible ideals. They would like to have more control of the physicians who bring patients to their hospitals, and when they see that a man is incompetent to do a certain line of surgery but is competent to do another, to be able to say to him, "Doctor, you do better abdominal operations than other surgery. Why don't you stick to abdominal surgery?" Or, "Doctor, your maternity work is not what it should be. You do forceps delivery very badly." The privately owned hospitals where those in charge have high ideals deserve a lot of credit, and they should be encouraged and protected. Several of those with whom I have talked find it necessary sometimes to refuse the patients of certain doctors, stating to the doctor that they feel he is not competent to do the particular kind of work needed, and that they do not care to have their hospital subjected to the criticism arising from incompetent work. Those institutions deserve credit.

The average privately owned hospital, however, does not take that attitude. It is run on a commercial basis, with a desire to fill the rooms and increase the income from year to year. Many of them are very apt to make no attempt at censorship so far as the physicians who are bringing work to their doors are concerned. Those in Pennsylvania who have taken this higher stand would welcome any State administration or State control which would regularly inspect their institutions to see that they are being as nearly square to the public as possible.

I have in mind a private hospital that is run exclusively as a private maternity hospital, and it is one of the dirtiest, filthiest holes in which I have been for a long time that sets forth as a hospital. There is no inspection and no one to check them up.

The privately owned hospital fills a niche in the hospital world. There are physicians who are competent to do good surgery, good maternity work, good medical work, who are competent in their specialty, whatever it may be, but who are not connected with a general hospital and have no hospital available for their patients. If general hospitals in their community are open to them they are in luck. But certain institutions will not extend this courtesy to all physicians and surgeons. The situation may be due to petty jealousies of the staff or to other reasons. These doctors have to take their patients somewhere, and the privately owned hospital becomes their haven under such circumstances.

The American College of Surgeons has sent an inspector to certain privately owned hospitals, and will approve such places, partially or fully, depending upon the extent to which the requirements of the College are met. Requirements regarding records are amusing to all of us who are interested in general hospitals, because we know the difficulty of inducing the members of the staff to keep records properly. That is the *bête noire* of the staff. The records are generally everything that they should not be, so far as the work of the staff is concerned. The attending physician is too busy to make records. Of course, the College properly insists that records shall be kept in the prescribed form, and requires these hospitals to keep records in order to be fully approved. The physicians who take work to private hospitals are not going to keep histories and make periodic records of everything. They simply will not do it. That puts many of these hospitals in the position of not being fully approved by the College, as they will not drive away the doctors who bring patients in. And, when a doctor takes his patients to a privately owned hospital, he feels free to do as he pleases. Many physicians send the bulk of their work to the private hospitals rather than submit to the annoyance of the required records in a general hospital.

The College also requires that hospitals shall have stated meetings of the "staff." There is no staff where the hospital is run for commercial gain or by a corporation. I asked an inspector what he would do where there is no staff in a privately owned hospital. He said the superintendent should call together once a month the more prominent physicians who are sending in cases and let them constitute a clinical conference, discuss the records, etc. These two conditions, keeping the records and having stated meetings, if not complied with, eliminate the majority of private hospitals from approval by the College.

A privately owned hospital does fill a very valuable niche in hospitalization, and in some of our large cities great sums of money are being invested in elaborate hotel-hospital facilities—investments which, in our State, seem to me not to offer the probability of financial success. However, as Dr. Morrison has said, these institutions should be regularly inspected; they should be placed under some sort of state control; something should be done to hold them up to higher ideals and standards; and if there is a check on them so far as the state administration is concerned, I think it would be welcomed by those who are conducting private hospitals of the higher type.

In Pennsylvania we are glad to welcome anything and do anything we can to further legislation that will bring about state control of the privately owned hospital, because it is a large problem. Those who have the higher ideals in running the private hospitals would welcome such a thing because they are trying to do the square thing, and they feel that other institutions of the same type ought to be brought up to the higher level.

Dr. Joseph S. Lawrence, Executive Officer, New York: In New York State, only those hospitals which accept public funds are open to any type of inspection, or those which accept maternity or pediatric cases. All these are inspected by the State Board of Charities, which has a division on hospital inspection. The inspection is a very elementary affair, as compared with the elaborate questionnaire of which Dr. Morrison spoke. They look only into the clinical facilities and, to a small extent, into the character or conduct of the hospital. Of course, hospitals that conduct nurses' training schools are inspected by the Department of Education for the purpose of determining their educational facilities. A bill was introduced last year requiring inspection of hospitals that take drug addicts, but it did not pass.

We have the private hospital in its various forms. We have the individual home, conducted by the physician for a few cases of his own. He may devote a few rooms in his house to this purpose. The rural physician sometimes sets aside certain rooms in his home for the care of maternity cases. We have the convalescent homes that are conducted by nurses, where a certain number of physicians keep them supplied with patients. Then we have the larger commercial venture, the "hospital hotel." I am not quite so pessimistic about the success of these hospital hotels as is Dr. Hammond. Those conducted in New York have very high ideals and are succeeding. One such place is going to be extremely popular, I am told, probably working in with a sanatorium. It is no longer necessary to go out into the rural district or the mountains to secure a pleasant home in which to recuperate. One can go now to the large city and he does not need to stop at a big hotel but, paying the same prices, can stop at a hospital. These hospitals are not being organized entirely by medical men either. Laymen are organizing hospitals which are being conducted as nearly as possible like hotels. They are incorporating themselves, too, so that there will be little danger of prosecution for malpractice or lack of satisfaction. We have every form of the private hospital, I believe, in New York, and certainly there is need for inspection or for licensing of such hospitals.

Two or three thoughts impressed me as I listened to Dr. Morrison's paper and the discussions that followed. We should have some definition of the term "hospital." We really need that in the laws of our three States. We should define the word hospital, which does not apply today very well because there are so many institutions or houses or schemes that probably would escape from any legislation which might be attempted unless that legislation contained a concise definition of the term to include the activities we are trying to bring under control. It would be my opinion that the inspection and licensing should be done by a state department rather than by the state medical society; it should be a function of some permanent state department. The medical society, if it were to be granted such power, would, of course, be open immediately to criticism by those persons who happened not to be members of the medical society or by people who would consider that there was politics in the medical society. This might interfere with the enforcement of the law. But it could be well put under the department of health or the department of charities. Other states doubtless have similar commissions functioning under different names.

With reference to further procedure in the matter, this Conference might, before adjourning today, appoint a committee, consisting probably of one person from each State represented. This committee, in collaboration with the several legal counsels of these State Societies, and with the assistance of such persons as they may wish to have who are engaged in conducting hospitals or are well informed in hospital management, might be instructed to prepare a bill to apply to the three states, with some minor variations. We should have it as early as feasible for consideration so that it might be introduced into our three Legislatures at approximately the same time, because there is a good deal of interchange among the legislators in regard to what is going on in these three States. I believe that if a bill which was in the major part the same was introduced in the three Legislatures at one time, and provided we would all work for it, we should get somewhere.

It was suggested that the College of Surgeons would be the proper agency to handle this work. I believe that we can better do it ourselves, through our three Medical Societies, their counsels, and such other persons as would be deemed advisable. After accomplishing it here, it would be left to the College of Surgeons to establish it over the United States. Nearly all of the correspondents indicated as their opinion that there is need for such inspection or control. Connecticut said they had tried it. They had a bill in last year or the year before and it failed of passage, so, without doubt, some educational work will be needed. But I do not believe there is much need of education in our three States. The people who are interested in the conduct of hospitals are aware of the need of which we are talking, and if we drew up a bill, I believe we should have a great deal of support in getting it through.

Dr. Ephraim Mulford, President-Elect, State Medical Society of New Jersey: There exists in some of our communities—and I am speaking for the largest county in the State of New Jersey, with a population of about 90,000 people—many small nursing homes. To make the instance specific, in our county we have two small general hospitals, with thirty-two beds in one and ten beds in another, rendering wholly inadequate the hospitalization of our patients. There, of necessity, these little nursing homes have sprung up all over our county. A woman without any special qualifications will take in confinement cases. There is not a single place in Burlington County open to children. Many of the children have been taken to the larger centers, to Philadelphia, Trenton, and Camden, but those hospitals have become filled, their population has grown, and it has now come to the point where it is almost impossible for us to get our sick children hospitalized. Consequently, we have made a drive and are building a hospital of 100 beds, modern in every respect. That hospital we are very proud of, and it will have to be manned by those of us who can and will give of our time. If our hospital has to be manned by men who are members of the American College of Surgeons or Physicians, we should not be able to run it.

I am not able to convey to you the chaotic condition that exists in our county as to the state of hospitalization and the condition of the homes where women and children are being taken, maternity and pediatric cases especially. It is a terrible state of affairs, one of which I am heartily ashamed, and I feel that state regulation of

these hospitals is most important. I do not know of any topic that could have been brought up today which comes home to us more vitally than this. But I do hope that in framing the law you will be a bit more lenient than Dr. Morrison has suggested, for if that law were established we should not be able to operate our institution at all.

Dr. Morrison, New Jersey (in closing): I purposely left out of my original remarks all reference to the type of work done in these private hospitals and the capacity of the buildings, because I wanted information to come from those outside of New Jersey as to what the conditions are in the other States. I wanted your opinion as to the work done in these hospitals so that it might be compared with conditions in New Jersey. I would divide these hospitals into a little larger group than Dr. Sadlier does. We have first, the type of private hospital where very excellent work is done by the highest type surgeons in the State. In New Jersey we have several such hospitals, well equipped, fireproof, with good sanitary conditions, and the character of work is equal to that done in any of our good hospitals.

Then we have another class of hospitals, far larger, where I might say the work is good and is done by good men, and they are not members of the College of Surgeons. They do not have appointments on regularly incorporated staffs, but they have a broad experience in surgery, and meet the requirements of local conditions in such manner that the people in that community are getting adequate medical and surgical attention where no such attention could be given if these hospitals were not in existence. There is always there the possibility of improvement, and under such regulations—not law, but regulations—that type of work can always be improved.

A third class of hospital is that where the work is indifferently good, to fair, to poor, and those hospitals are run by men of mediocre ability and education, who lack the proper training and experience, either medical or surgical.

The fourth type is the hospital that should receive the ban of the entire medical profession, the hospital where we know unlawful surgical work is done and where criminal work is always at high tide. That makes a little broader division of the work.

There is no intention on our part to limit the number of these hospitals. The condition, as Dr. Sadlier says, exists all over the United States. We see more of it here because this district is intensely industrial and has large European populations that are growing rapidly, and with that comes the necessity and demand for hospitalization. These patients cannot all be taken care of in general and incorporated hospitals; the capacity is not sufficient. We in New Jersey at present are underhospitalized, I think about thirty per cent, in a population that is growing very rapidly. The private hospital is here, and we hope it is here to stay. The idea in mind is to regulate these hospitals, first by law, then by regulation under power of the law, so that there will be a progressive improvement in every institution visited.

As to the matter of records, I wish I could agree with Dr. Hammond that it is absolutely impossible or would be impossible to secure and maintain records in these institutions, but I do not. When the College of Surgeons first began its work the greatest bugbear it had to overcome was the matter of records, and those of us who have been associated with the hospitals, as you all are, know the insistent daily, monthly, and yearly drive to get records; but now there are fairly good records kept. Records would never have been kept in those hospitals had it not been for the insistence of the American College of Surgeons. If some department, given legal power by the state, will insist upon the production and keeping up of a similar class of records, if work is to be permitted, those records will be forthcoming. At first they will be crude, useless, but they will be records, and it will be a step in the right direction. As the years go on, the type of record is bound to improve until it will approach those kept in our good hospitals.

The fact that 47 per cent of the people hospitalized in the United States are taken care of in these private hospitals shows the absolute necessity for them all over the Union, not only in our three States, and the need of attempting to put in force some regular authorized supervision and control.

There is no question about the third type of hospital to which I refer. The poor work being done by a certain class of physicians is done by men who cannot secure appointments on any hospital staff, who band themselves together to do medical, surgical, and obstetrical work such as comes within their line of practice and which they feel must be hospitalized. They will not send their patients to men better qualified, but do the work themselves simply because there is no supervision that prevents them from doing it. There are many hospitals which could take care of these patients, but they will not give up that lucrative work until some supervision is placed over them to compel them to seek the approval of the rest of the medical profession.

A great deal is being done by municipalities, apart from state authorities, along certain lines. For instance, in Newark, a year ago an investigation was made by the Board of Fire Commissioners, with the idea that nonfireproof buildings, buildings without fire escapes and sprinkling systems approved by the fire commissioners, must be closed. We had a hospital of 100-bed capacity in a series of frame buildings. We had spent a great deal of money in adequate fire escapes, but it was a frame building, and we were ordered to close. That same order affected seventeen hospitals in the city of Newark. We put in a sprinkling system, and that seemed sufficient. Many of the smaller hospitals are doing this.

If such a law is drawn up, it should contain a clear definition of what constitutes a hospital, so that there would be no loophole. Any place where two or more patients are treated for longer than a few hours in an emergency should be termed a hospital; and it does not matter what the treatment is, by what class of people, physicians, nurses, or others. The definition will cover it all if it is broad enough.

I feel again like insisting that the whole matter should be put under some state department. The state medical society would not have power enough, unless it were granted that power by law, to carry out the proper regulations. And if it were proposed by the State Medical Society in our State, which represents only about one-half of the practicing physicians, it could never be secured by legislation, and I doubt the efficacy of it as compared with a well-organized state department. The law should carry with it the power of regulation which can be specified and enforced by an authorized body. The medical society in each state, if you have the same degree of coöperation with the state department that we have in New Jersey, will have no trouble in securing the control that the medical society wishes to enforce.

Dr. Henry O. Reik, Executive Secretary, Medical Society of the State of New Jersey: I should like to say a word in behalf of Commissioner Ellis of the State Board of Institutions and Agencies. I had a long

conversation with him yesterday, and I think this has an important bearing on what has been said here. Mr. Ellis is very keen for this whole proposition. He wants the law amended to cover the points you have been discussing, and would like to have submitted to him for presentation to the Legislature some such model law as Dr. Lawrence has suggested.

If Dr. Lawrence meant to offer as a motion that a committee composed of representatives from each of the States be appointed, to act with other authorities as they deemed wise, to draft a model law to be presented in the three State Legislatures, I heartily second the motion.

The motion was unanimously adopted.

The president asked Dr. Sadlier and Dr. Morgan to appoint some one from their respective states, and stated that he would do the same for New Jersey.

Dr. Morgan of Pennsylvania offered the following resolution:

It is the sense of this Tristate Conference, representing the State Medical Societies of New York, New Jersey, and Pennsylvania, that there is urgent need for legislation in each state in the Union, regulating the organization and scope of private hospitals, in respect to location, personnel, and character of work essayed, and that the appropriate state department should be clothed with power sufficient to accomplish this purpose.

We recommend that our several State Medical Societies shall at once take up discussion of this problem, leading to enactment of appropriate laws at the next session of our State Legislatures.

The resolution was adopted.

Dr. Morgan: I should like to read part of a letter that conveys an idea used by the Committee on Public Health in Illinois, during the recent session of the Legislature, which I am informed was a big force in defeating the attempts of the cults to have some special legislation enacted. It is from the Secretary of the Anatomical Board of the State of Pennsylvania, and states: "Since 1899 no cadaveric material has been distributed to either of these so-called systems of human relief." The fact that these cults do not provide material for dissection, and do not demand that dissection shall be practiced by their students, proved to be a strong argument in Illinois, and I am sure is well worthy of repetition in our several states.

Dr. Reik: With reference to possible legislation to be considered in our States during the next year, I am sure the representatives from Pennsylvania and New York will be interested to hear that in all probability a bill will be introduced providing for the annual registration of physicians in New Jersey. It was brought before the House of Delegates of the State Medical Society by the Board of Medical Examiners in June, and met with hearty approval. It is under consideration by the Welfare Committee, and I think it will unquestionably be endorsed by nearly all of the county societies. While it will not be introduced by the Medical Society, it will be introduced by the Board of Examiners with the support of the medical profession.

At the last meeting we discussed asking the Radio Corporation of America to appoint on their Advisory Committee some medical man of recognized authority and ethical standing to advise them concerning any proposition for broadcasting of medical matters. I was authorized by resolution to communicate with them, and agreed with Dr. Sadlier to arrange for a visit in New York. When we discussed the matter later, however, we remembered that the question had been put up to the A. M. A., and I wrote to Dr. Phillips about it. Action taken had not culminated in anything up to that time, and as summer vacation was approaching we felt we should not do anything further until the A. M. A. had ample chance to do whatever they desired.

The meeting room we are now in is the broadcasting room of Radio Station WHAR, which station has been placed at the disposal of the New Jersey State Society for carrying on its educational program. Every Friday evening, beginning with December 2d, we shall have the air for fifteen minutes; and we think we are in a very advanced position for putting out a big medical educational program. You will be interested to know that the Medical Society of New Jersey has a definite hour each week at its disposal for broadcasting, and you may consider the desirability of securing such privileges for the State Societies of New York and Pennyslvania.

Dr. Lawrence: Our Board of Health broadcasts every Friday evening from WGY, and they have covered the field very thoroughly. The Health Department in Syracuse, also, has gone on the air on several occasions, and the State Charities Aid has been broadcasting in regard to the Antidiphtheria Campaign, so I do not believe we need to concern ourselves about that in New York.

Dr. Reik: The next place of meeting is to be determined, and the topics for discussion considered.

Dr. Sadlier: I assure you that New York will be delighted to have the privilege of entertaining you at the next meeting.

Dr. Reik: The time of meeting will be about the middle of January. It is for the New York men to determine what the topics will be for discussion, but it occurs to me to ask whether it might not be an appropriate time to consider the need of legislation bearing upon expert medical testimony. Two years ago the National Bar Association, meeting in Cleveland, drafted a model law of this kind which I think has not been any where put into effect. Several of the states, notably Missouri, have very good laws on the subject, and I think it might be a topic worthy of consideration next time.

Dr. Lawrence: I want to endorse heartily this suggestion in regard to expert medical testimony. Dr. Sadlier and I should like to hear whether that would be in accord with the desires of the other men. Further, we have been functioning now for three years, and thus far we have spent most of our time in acquainting ourselves with the problems of our several States. Those of us who have been regular attendants have, I think, a pretty general idea of what the problems are. Can we now begin to select certain things upon which we can coördinate our thoughts, certain activities upon which we may get to work so that the public may see it as the united movement of the three Societies? We might all come prepared with a list of activities on which we could unite.

Dr. Reik: I move that the arrangement of the program be left to the New York representatives.

Dr. Morrison: As Dr. Lawrence has said, we have had an opportunity to feel out the utility of this conference during the last three years and to measure the degree of importance of the subjects discussed. There is no question of its value. It will be my privilege to discuss before the Secretaries of the A. M. A., at the request of its Secretary, Dr. Olin West, just what this conference has done in the last three years, with the idea of extending its activities all over the United States. This gives us an idea of what the approval of organized medicine is. There are so many topics coming up all the time that can be better fostered by the united coöperation of the three Societies that I feel the time has come when we might begin to specify the work and broadcast it to the public with an educational idea in view.

Dr. Morgan and Dr. Sharpless heartily approved of the suggestion.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

Officers' Department

A. C. MORGAN, M.D., Sc.D., F.A.C.P.
President
2018 Chestnut Street,
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THOUGHTS FOR THE NEW YEAR

A Happy New Year to each member of the Medical Society of the State of Pennsylvania.

Now that the year has ended, it will be in order to file away or bind the bulletins of the several county medical societies. The fiscal year of the Atlantic Medical Journal ends September 30th, and therefore binding by volume should end with the September number.

History is always in the making, and we should store up our references for the future. Bound copies of transactions become increasingly valuable as the years go by.

Election of Officers. Most of the county societies either hold their annual elections in January or the new officers assume their duties at that time. It is necessary that the work of every office shall be faithfully and fully performed in order that there may be harmonious action as a whole upon the part of any society. Due consideration must be given, therefore, to the selection of each officer, and it would seem that a nominating committee should be appointed to present names for consideration. This committee should ascertain from the individuals named whether or not they would accept the responsibilities of office. They should likewise consider the capacity of the individual for an office, always working for the best interests of the society in particular and the medical profession in general.

The newly installed president should be prepared to announce the personnel of the committees, so as to start them on their work at once and avoid delay caused by unnecessary correspondence. It is incumbent on the newly elected president to state his plans and purposes for his term of office. A little thought given beforehand will indeed bring its own reward in the stimulation to teamwork that is bound to result when such a system is followed.

Attendance. In some of the mountainous districts of the Keystone State, traveling becomes quite difficult during the winter months, but with the increasingly fine network of highways this handicap becomes lessened each year, so that absence for this supposed reason is not so valid as in former years. The program committee should endeavor to provide worth-while programs, so as to offer a challenge to each member to be present regardless of ordinary handicaps.

During the past year, as we visited many county societies, we were pleased to meet in every group doctors of whom it could well be said that they come to their meetings, rain or shine. If these faithful men can establish such a record, it suggests that the "will to do" overcomes all obstacles.

Social Functions. Quite a number of the county societies observe the end of their fiscal year by having a get-together meeting, usually of a social, rather than of an ultrascientific nature. At this meeting the ladies are present and their testimony assures us that they appreciate the opportunity to join the busy doctor on such occasions.

Monthly Bulletins. It is our pleasure to review personally each monthly program, letter, bulletin, and roster that comes to our desk. Some of these show a very high order of editorial accomplishment. All are interesting.

We would recommend that there be a neighborly exchange of monthly publications between adjoining counties, as intercounty visitation contributes much to the success of the doctors in a section, regardless of county lines.

Past Presidents. It is usually looked upon as a routine procedure to have past presidents relegated to the "Amen corner" upon completion of their terms of office. This should not be. One who has served an organization in an official

position has gained experience that always is valuable to his society, and he should maintain a continued interest in the welfare of that organization. The ex-president can always serve in an advisory capacity, even though he is not expected to continue in an active manner on committee work. Don't let such valuable material go to waste. See to it that your committees for 1928 list your ex-presidents in a definite manner to carry on their good work of former years.

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade Building
Pittsburgh, Pa.

BOARD OF TRUSTEES MEETING

The Board of Trustees met in regular session at 230 State Street, Harrisburg, Tuesday, December 6th. Thirteen members and ex-officio members were in attendance.

The Board approved of the proposal that sample copies of the ATLANTIC MEDICAL JOURNAL be mailed to all physicians throughout the State—nonmembers, but considered eligible and acceptable for membership by the officers of the various county societies.

Under unfinished business, the authorization received from the 1927 House of Delegates to increase the State Society annual dues, was acted upon as follows: It was decided that the increase should be $2.50 beginning with the payment of the 1929 county society dues, the justification for the increase being based upon the following:

1. Assumption by the State Society of additional expense for entertainment and scientific exhibit at annual sessions.
2. Development of a State-wide lay-educational service.
3. Increased allotments from each member's dues to Funds—Benevolence, Defense, and Endowment.
4. Annual conference at Harrisburg of county society secretaries and editors.

The Board approved of the suggestion that the annual conference of secretaries, heretofore held during the annual session, be enlarged to include the editors of county society publications, and that it be held in 1928 on December 4, at Harrisburg, the same day the Board of Trustees hold their meeting, the State Society to pay the actual travel expense of secretaries and editors in attendance, as well as for a dinner in connection with the all-day conference.

Secretary William C. Woodward of the Bureau of Legal Medicine of the American Medical Association, who was present on invitation, discussed the ideal basic-science law, and reported on the practical operation of similar laws in Wisconsin, Minnesota, Nebraska, and Washington.

The Board approved of the suggestion that component societies be encouraged to appoint one or more members to serve in connection with Child Health Day activities.

The conduct of the case for so-called allopathic physicians before the Freeman Commission at its hearing in Pittsburgh, January 16 and 17, was placed in the hands of the following committee: President-Elect Simonton, Councilor Litchfield, Secretary Donaldson, and Secretary Colwell of the Allegheny County Medical Society, who served the latter society as official observer during the hearing before the Commission in Philadelphia, November 16 and 17.

The report of the financial audit of the Society's accounts and funds for three years, ending August 31, 1927, made by Grant L. Bell & Company of Scranton, was received, accepted, and its recommendations adopted.

A GROWING BUDGET

Not the least of the rapidly developing items of expense incident to the administration of the functions of our Society is the amount of money of necessity devoted to the defense of existing high licensing standards for all those who would legally treat the sick in Pennsylvania. Our Committee on Public Health Legislation, of which Dr. Paul R. Correll, of Easton, is chairman, recently sent a communication to the proper officers of all our county societies, stating that our long-continued participation in the defense of public-health interests manifest in our open opposition to untrained, unlicensed healers who not only practice illegally in Pennsylvania, but openly declare their unbelief in the value of vaccination against smallpox, typhoid fever, diphtheria, etc., was in some quarters being interpreted as an open warfare between organized licensed doctors of medicine and organized unlicensed healing cultists such as chiropractors and naturopaths. This false impression has developed naturally and easily in the minds of casual observers because the efforts of members and representatives of our Society not only resulted in the creation of our present Medical Practice Act, but because, with the exception of representatives from the Bureau of Medical Education and Licensure, we have been the sole defenders of the Act against the attacks of insufficiently trained healers and the so-called colleges from which they graduate.

While most of the expenditures referred to

have been for travel expenses of officers and committees in preparation and defense of the health of the public before legislative committees and investigating commissions, they nevertheless are extensive and becoming greater each year. It is anticipated that for travel expenses, printing, postage, and stenographic work, our Society's participation in the hearings before the Freeman Commission, at present investigating legislative acts controlling the practice of the healing art, will cost approximately eighteen hundred dollars.

Our predecessors having put their shoulders to the wheel, we cannot turn aside until the people of Pennsylvania are assured that every practitioner of any branch of the healing art, holding himself out as such, is adequately trained and legally licensed.

The attention of our members is respectfully called to the action of the Board of Trustees at their meeting, December 6th, recorded in this number of the JOURNAL, and especially to the items of expenditure which, in the judgment of the members of the Board, justify a fifty-per-cent increase in annual dues of all members of the State Society, if our Society is to fulfill its destiny and avowed purpose; viz., "to elevate the standard of medical education, to secure the enactment of just medical laws,.....and to enlighten and direct public opinion in regard to the problems of public health and hygiene, so that the profession shall become more useful to the public in the prevention and management of disease and in prolonging and adding to the comfort of life."

THE 1928 HONOR ROLL

As mentioned in the December JOURNAL, the Honor Roll for the current year is headed by the Elk County Medical Society. The closest competitor to Secretary Logan at the present writing is Secretary Fleming of the Schuylkill County Society, who, on December 16th, had remitted to this office the 1928 dues of fifty-seven per cent of his 1927 members. We trust that the response of members in all county societies to the request for prompt payment of 1928 dues will excel the gratifying response of the previous year. All county society secretaries requesting same have been provided with statement blanks to be mailed to the members of their societies.

The triplicate of the receipt which should be given to each member by the secretary of his county society upon payment of his 1928 dues is yellow in color and conveys its own suggestion that it be filed. On the back of this receipt you will find the name and address of the councilor for your district, and valuable advice for your guidance should you be threatened with suit for alleged malpractice. It is well to remember that you will not be entitled to assistance from our Medical Defense Fund if your dues are not paid before March 31, 1928.

The number of members in good standing on December 20, 1925, was 7,486; on December 20, 1926, 7,584; and on December 20, 1927, 7,722.

CONTRIBUTION

Acknowledgment is made of the following contribution to the Medical Benevolence Fund of the Medical Society of the State of Pennsylvania, not previously reported in the JOURNAL:

John F. X. Jones, Philadelphia, $20.00.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to December 15:

ALLEGHENY: *Removal*—James F. Hunter from Turtle Creek to Julian (Center Co.).

BEAVER: *New Member*—George B. Rush, Woodlawn.

BERKS: *New Members*—Sarah E. Worob, 245 N. 5th St., Kenneth P. Lanz, 825 No. Fifth St., Reading. *Death*—J. Ellis Kurtz, Reading (Jeff. Med. Coll. '80), recently, aged 71.

BLAIR: *Removal*—Samuel W. Miller from Altoona to R. D. 1, Hollidaysburg.

BUCKS: *Transfer*—John G. Steele, Bristol, from Potter County Society. *Death*—Albert C. Althouse, Dublin (Jeff. Med. Coll. '92), Nov. 30, aged 64.

CAMBRIA: *Removal*—George G. Ebandjieff from Johnstown to Nanty-Glo. *Transfer*—Julius Wollitzer, 409 Broad St., Johnstown, from Northampton County Society.

CHESTER: *Removal*—Admiral Wm. C. Braisted from San Diego, Calif., to c/o Dr. Gibson, Navy Dept., Washington, D. C.

COLUMBIA: *Removal*—William C. Hensyl from Berwick to 155 Nineteenth Ave., St. Petersburg (Clarion Co.).

CLEARFIELD: *Reinstated Member*—Blair G. Learn, Ansonville.

CUMBERLAND: *New Member*—Lloyd C. Pierce, Enola.

DAUPHIN: *New Member*—Walter D. Hawkins, 308 No. Second St., Harrisburg.

ERIE: *Death*—James L. Heard, North East (Univ. of Mich. '94), Oct. 17, aged 53.

FAYETTE: *Death*—Simon H. Baum, Uniontown (Univ. of Pa. '97), Sept. 24, aged 52.

HUNTINGDON: *New Member*—Leroy S. Howard, 505 Mifflin St., Huntingdon.

INDIANA: *Removal*—Thomas J. McNelis from Philadelphia to 45 N. Sixth St., Indiana.

LANCASTER: *Removal*—Walter F. Mylin from Hollidaysburg to State Hospital, Norristown (Montg. Co.).

LUZERNE: *New Members*—Francis P. Judge, 7 S. Main St., Plains; C. M. Thomas, 420 S. Main St., Parsons.

LYCOMING: *New Members*—Jesse A. Thompson, 332 Pine St., Thomas M. West, 35 W. Third St., Williamsport.

MERCER: *Removal*—Ross A. Kelly from Farrell to McKeesport (Alleg. Co.).

MONTGOMERY: *New Members*—Charles A. Laubach, Lillian Malone, State Hospital, Norristown; Irwin Z.

Kinsey, Souderton; Walter F. Ciesielski, Spring Mill Ave. & Ash St., Conshohocken.

MONTOUR: *New Member*—Robert Y. Grone, Geisinger Hospital, Danville.

MONROE: *New Members*—Charles A. Le Cates, Tannersville; Roscoe Van Der Bie, Stroudsburg.

PHILADELPHIA: *Death*—Frank D. Harris, Philadelphia (Univ. of Pa. '95), Nov. 26, aged 55. *Removal*—Gertrude J. Chandlee, to 100 W. 59th St., New York City; Jefferson H. Clark, to Maple Ave. & Washington Lane, Wyncote (Montg. Co.); Karl Kornblum, to 9 Hathaway Circle, Wynnewood; Edith H. Matzke, to 207 N. Jefferson St., Punxsutawney (Jeff. Co.); J. Evans Scheele, to 323 Davis Road, Llanerch; Jacob Kaminsky, to Corsica (Jeff. Co.). *Resignation*—Theodore A. Erck, Leesburg, Florida.

SCHUYLKILL: *New Member*—Albert F. Bronson, Gordon. *Removal*—Walter R. Rentschler from Ringtown to 325 N. Fifth St., Reading; John M. West, from Tamaqua to Quincy, Ill.

TIOGA: *New Members*—Inman H. White, Lloyd; J. William White, Blossburg.

WESTMORELAND: *Reinstated Member*—David R. Shepler, West Newton. *Death*—William F. Peairs, Sutersville (Coll. Phys. & Surg., Balt. '92), Nov. 20, aged 62.

WASHINGTON: *New Members*—Stacy H. Rinehardt, 33 W. Chestnut St., Washington; Charles B. Wood, St. Petersburg, Fla.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since November 19. Figures in first column indicate county society numbers; second column, State Society numbers.

For 1927				
Nov. 19	Westmoreland	157	7717	$5.00
30	Lycoming	115	7718	5.00
Dec. 15	Clearfield	65	7719	5.00
For 1928				
Nov. 19	Luzerne	5-6	31-32	10.00
	Montour	1	33	5.00
	Berks	1	34	5.00
	Huntingdon	1	35	5.00
	Monroe	1-2	36-37	10.00
Nov. 30	Tioga	1-3	38-40	15.00
	Lycoming	1	41	5.00
Dec. 3	Mifflin	1-7	42-48	35.00
6	Cumberland	1	49	5.00
9	Montgomery	1-28	50-77	140.00
	Northumberland	1-3	78-80	15.00
	Dauphin	1	81	5.00
	Adams	1-9	82-90	45.00
12	Schuylkill	1-80	91-170	400.00
	Lycoming	2-19	171-188	90.00
	Beaver	2-3	189-190	10.00
14	Clarion	1-10	191-200	50.00
15	Columbia	1-13	201-213	65.00
	Dauphin	2	214	5.00
16	Berks	2-10	215-223	45.00
	Schuylkill	81-90	224-233	50.00

County Society Reports

BERKS—NOVEMBER

Dr. Oscar E. Fox: Practical Considerations in the Treatment of Fractures.—The first treatment of a fracture requires good judgment and prompt action. Additional injury may be prevented by avoiding unnecessary manipulation. A search is required for other associated injuries, especially those of nerves. X-ray examination should be made as early as possible, with pictures taken in two planes, stereoscopic when necessary, and both before and after reduction. Setting fractures under the fluoroscope by means of an x-ray fracture table is desirable.

Every fracture must be treated individually and as an emergency. Reduction should be accomplished at once or as early as circumstances will permit. An anesthetic, preferably ether, is essential in all cases where the physical condition allows it. Apparatus must be selected according to the peculiar proposition presented in every case.

The average surgeon should be conservative in his treatment. An effort to secure anatomical replacement is essential, but this is not necessary for good function. An open operation should be done where conservative treatment fails and in the few cases in which operation is the procedure of choice. Fractured patellæ and fractures of the head of the radius call for early operation.

Dr. Wellington D. Griesemer: The Use of the Thomas Splint in Emergencies.—The first or emergency dressing of a fracture often determines the final result as to union and function. A good rule is "splint them where they lie." Prompt fixation of all fractures of the extremities before transportation is of the utmost importance, as it tends to prevent further displacement of fragments, decreases soft-part injury, and makes for the comfort of the patient during transportation.

On account of its simplicity and ease of application, the Thomas splint is probably the best and quickest splint that can be applied in the emergency dressing of fractures of the extremities.

Dr. Howard M. Leinbach read a paper entitled "Fractures of the Lower Tibia and Fibula."

CLARA SHETTER-KEISER, M.D., *Reporter.*

BLAIR—NOVEMBER

The members of the Blair County Medical Society met in the Nurses' Home of the Altoona Hospital on November 22d. A symposium on "Pneumonia" was presented as follows:

Dr. A. S. Oburn: Signs and Symptoms of Lobar Pneumonia.—Lobar pneumonia accounts for five to ten per cent of all deaths. Its modes of onset are not always typical. In old people, the onset may be insidious and with very little temperature, while in children it may be exceedingly severe.

The incubation period is unknown—probably a few hours to a few days. There is usually an abrupt onset, with chills and rapid rise in temperature. Often there is a severe pain in the side, with a short, dry cough, anxious expression, and rapid respiration. The skin is dry and pungent, the pulse full and bounding. Movements on the affected side are deficient, vocal fremitus is greatly increased, while percussion and auscultation vary greatly in the different stages.

Dr. R. O. Gettemy: Massive Collapse of the Lung.—Massive collapse of the lung often follows operation, and is usually mistaken for a postoperative pneumonia. There have been many theories advanced as to the cause of this condition, but none have been absolutely proved. The most plausible theory at present seems to be that of reflex stimulation to the musculature of the bronchioles. The symptoms so closely resemble those of pneumonia as to make diagnosis difficult. However, the sputum is never bloody. On physical examination we find displacement of the apex beat from the affected side, the percussion note usually hyperresonant, breath sounds inaudible, and absence of vocal fremitus. Space in the thorax is often under considerable air pressure, and the patient is greatly relieved if a puncture is made with a fine trochar.

Dr. L. S. Lass: Complications.—Complications of pneumonia are chiefly pleurisy, which is practically a part of the disease; empyema occurring in about twelve per cent of the cases; pericarditis in about one per cent; while endocarditis and meningitis are rare complications. Less common complications are lung abscess, otitis media, arthritis, jaundice, and peritonitis.

Dr. C. I. Robinson: The Heart in Pneumonia.—Practically all the deaths in pneumonia are due to heart failure. Signs of myocardial insufficiency is one of the gravest complications occurring during the course of the disease. Cardiac failure is usually on the right side of the heart. It is wise to begin digitalis medication early, get the heart under its influence, then continue with small doses until such time as it becomes necessary for added stimulation.

Dr. G. D. Bliss: X-ray as an Aid in Diagnosis.—An interesting series of lantern slides were shown of many cases of pneumonia and also of massive collapse of the lung. The slides demonstrated very nicely a case of massive collapse with the organs of the mediastinum pushed over to the affected side on inspiration. They also demonstrated that the space in the thorax on the collapsed side was under pressure by showing the diaphragm pushed down.

Dr. A. S. Kech: Specific Treatment.—No immunizing serum has ever been prepared for pneumonia, but in the past five years a serum for treatment has been prepared with a marked degree of success in type-I cases, and a lesser degree of success in type-II cases, while no results have been obtained in cases of the other two types. The serum is prepared by injecting graded doses of killed and living pneumococci into the horse. Patients who received serum treatment in the hospital usually reached a crisis in from four to six days, and the temperature fell by lysis. No complications occurred in any patient who received serum treatment. Patients usually felt better and breathed easier after the first injection.

Dr. H. C. Thomas: Routine.—No drug should be used routinely in pneumonia, unless perhaps it is digitalis. The patient should be kept quiet and comfortable. The room should be kept at a temperature of between 50° and 60° with fresh air, not necessarily cold air. Treatment is symptomatic, meeting complications as they arise. Tepid sponges are usually effective in combating high fever. The mouth should be washed out several times a day, and the teeth kept clean. Morphin should be given when needed, as rest is very essential.

Dr. B. L. Hull: Diathermy.—By the use of diathermy treatment in pneumonia cases the heat may be applied at any desired point within the lung. The patient usually feels immediate relief, and resolution begins almost at once. There are no contraindications to diathermy except in cases where there is pus in the pleural cavity with no means of free drainage.

Dr. J. R. T. Snyder: Surgery in Complications.—Empyema is by far the commonest complication in which surgical intervention is required. The routine procedure in this condition is the resection of a small part of the eighth rib, about one and a half inches of bone being removed. A puncture is then made through the pleura, and double drainage tubes are put in. These are held in place by sutures, and a safety pin is fastened into each tube. The operation is performed under light ether anesthesia. The subsequent treatment consists of injection of about two ounces of Dakin's solution into the tubes every two hours during the day, and every four hours at night. Patients are usually able to return home in about three weeks.

Dr. G. E. Boesinger: The Laboratory as an Aid in Diagnosis and Prognosis.—It is of primary importance to do a sputum examination and typing. If the case falls under types I or II, the serum treatment can be used to advantage; if in type III, the prognosis should be guarded. Sometimes the Friedländer bacillus is found instead of the pneumococcus. These cases often end in empyema or lung abscess, and the prognosis is worse than for a true pneumonia. There is usually a fairly high white-cell count at the onset of pneumonia. This shows a healthy reaction and is a favorable sign. At first the red-cell count seems to be increased and then falls steadily as the disease progresses.

The discussion was opened by Drs. E. E. Neff and J. C. Noss, with several members of the society joining in.

A light luncheon was served following the meeting.

R. V. SILKNETTER, M.D., *Reporter.*

LUZERNE—NOVEMBER-DECEMBER

The meeting of November 16th was held in the Medical Building, with President G. R. Drake in the chair. Dr. Carlyle M. Thomas, of Parsons, and Dr. Francis P. Judge, of Plains, were elected to membership.

Dr. S. W. Blazejewski, Wilkes-Barre: The Anatomy, Pathology, and Surgery of the Faucial Tonsil.—There are two distinct types of tonsils, the pedunculated and the buried. The former is nearly spherical, is attached by a small base to a shallow sinus, and appears prominently in the fauces. Hence it is usually called hypertrophied, yet it may not be excessive in size, the average being much smaller than in the buried type. The buried tonsil may be very large without giving any indication of it to the casual observer. Practically all of the pathologic conditions of the tonsils, with the exception of the neoplasms and certain of the specific infections, are brought about by the peculiar anatomic structure of the crypts and their tendency to retention of the cellular débris. The cryptic epithelium is thin and offers little mechanical resistance to the entrance of foreign particles from the crypts into the parenchyma of the tonsils. In many cases it is impossible to determine the condition of the deeper parts of the crypts until the tonsils are removed, as it is at their blind ends that retention and bacterial growth are the most marked.

If reduction in size is the only object, tonsillectomy is a perfectly satisfactory operation in those cases in which the tonsils are pedunculated and project far beyond the faucial pillars. A regeneration of lymphoid tissue often occurs after these partial operations, so that within a short time the tonsils may be as large as ever. On the other hand, regeneration after a well-done tonsillectomy is an impossibility, since all the elements from which the lymphoid tissue is developed are removed from the sinus tonsillaris.

Following are the principal indications for tonsillectomy: simple hypertrophy causing aural or obstructive symptoms, recurring attacks of acute tonsillitis and peritonsillar abscess, chronic retention in the crypts, cervical adenitis if the evidence points to the tonsils as the infecting source, and systemic infections whenever the evidence points to the tonsils as the source of infection.

Dr. James T. Williams, Wilkes-Barre, read a paper discussing the etiology and pathology of gall-bladder disease.

Dr. H. B. Gibby: The bile in the gall bladder is found, under normal conditions, to be ten times as dense as that in the liver or intestine. This is controlled to a certain extent by the sphincter. It is quite possible

and rather probable that the control of these sphincters is under the control of the gall bladder.

The pathology is due to some obstruction to the outflow. Unless there is obstruction there is little opportunity for stagnation and infection by bacteria. There are a number of bacteria living normally in the gall bladder and awaiting a chance to develop under the circumstances of obstruction. The formation of gall stones may be the result of infection, and no doubt frequently is. The pathologic gall bladder does not always form stones. There may be inflammation without stones. Such is the "strawberry" gall bladder.

Symptoms of a pathologic gall bladder are varied, and some of them are simply those of chronic indigestion in its early stage. If the disease is confined to the gall bladder itself, we do not have any of the manifestations of so-called "gall-bladder disease" or jaundice. The infection of the gall bladder is probably of hematogenous origin.

The treatment of gall-bladder disease was entirely medical at first and later entirely surgical. Then came the medical method of drainage of the gall bladder through the duodenum. This is not efficacious in case there is any great degree of obstruction in the common and cystic ducts. Sooner or later a diseased gall bladder requires surgery. The present trend is towards cholecystectomy in about 75 per cent of cases.

In some cases an apparently innocent stone has been found when operating for other conditions. It is permissible to operate and remove the stone without removing the gall bladder, but in the majority of cases the patient's interests will be best served by removing the entire gall bladder.

Dr. L. H. Taylor: Twenty years or more ago, we did not do the tonsil operation as it is now done. I followed the method of Mackenzie, of Baltimore, who believed and recommended practically that the tonsil should not be entirely removed, and we do not know yet whether this might not be the best plan.

A few years ago a member of this Society read a paper here telling of a new operation which he had devised for removal of the tonsils by dissection with the fingers. But that operation was the one which was devised and recommended by Celsus living in the second century, A.D. So he was preceded by about 1,800 years!

The essayist did not mention the fact that rheumatism has been regarded as one of the indications for removal of the tonsils. I think the first one to bring before this Society the question of general infection being caused by the tonsil was Dr. Charles Long, who many years ago read a paper on that subject.

There is a certain fashion in regard to the tonsil, not only with the medical profession, but with the laity. I think sometimes our doctors are forced into it. Dr. Packard said we used to have trouble to get the people to have the tonsils taken out; now we have trouble to keep them from it.

The December 7th meeting was held in the Medical Building, with President G. R. Drake in the chair. It was announced that the medical library of the late Dr. James Brooks had been presented to the Society. This comprised 360 volumes, including an early volume of the "Medical Recorder" which had hitherto been unattainable and which completed the Society's series. Dr. Alexander H. Dean of Wilkes-Barre was elected to membership.

It was announced that weekly postgraduate lectures had been arranged with the Philadelphia speakers for the winter, spring, and fall of 1928. This has been arranged independent of the University of Pennsylvania Postgraduate School of Medicine.

Dr. F. J. Bishop of Scranton, district councilor, was present and addressed the Society.

Dr. W. Oakley Hermance, Philadelphia: Why Proctology?—Proctology is the great underworked field of specialism of the present day. The great majority of rectal cases which come to us do not receive the best treatment at the hands of the general surgeon or the general practitioner. Skill in instrumental exploration that a specialist may acquire is found only through the desire to spend time and patience in doing the little and apparently obvious things that in themselves make for advancement. We see and personally treat every day each postoperative case in our charge. Neglect for even a few days often necessitates a second operation. It may have been only a lack of interest that in the old days threw the treatment of rectal diseases into the hands of the quacks and charlatans.

Of the more common type of pathology of the anal canal, the infections constitute the most interesting. Most are diagnosed by the majority of practitioners as "piles." The obvious signs of infection are always preceded by others, such as pain at stool, hemorrhage, tenesmus, and other discomforts, which if recognized early by a trained finger, may be corrected, and much after-mutilation, suffering, and loss of time may be saved the patient.

The varicosities are prone to be confused, and in truth are often complicated, and complicate the colitic type with proctitis and enterocolitis. I have never seen two cases of pruritus ani alike. To classify by symptoms, appearance, or etiology, is nearly as impossible as to effect a permanent cure in any particular case. Pruritus ani constitutes the most interesting problem in proctology. Other problems are sphincter tone in relation to systemic disease, malformations, anal tuberculosis, venereal diseases, fissure in ano, fistula, stricture, constipation and obstipation, fecal inpaction, prolapse of the rectum, benign and malignant tumors of the rectum and pelvic colon, foreign bodies, wounds, injuries, and the nervous and hysterical rectum of the tabetic and insane.

Dr. Hermance concluded with a lantern demonstration.

Dr. Mengel: I was most impressed with the essayist's advice to make a digital examination in every case in which there is rectal trouble. We all are guilty in that regard. These examinations, if made, would often be the means of the physician recognizing the trouble and not waiting for consultation. About two years ago an elderly lady was sent to the hospital for a hemorrhoid operation. She had thin stools and pain. When examined, it was simply an impaction. Not long ago a woman was suffering pain and several physicians saw her and suspected carcinoma. She had thin, watery stools, and was unable to get out of bed. She too had an impaction. These cases can be recognized by any of us if we take time to make an examination.

Dr. Freeman: If dermoids are not located accurately, they recur. Likewise do fistulæ when the opening is not found.

Dr. Gibby: Every complete examination of the patient should inquire into rectal symptoms, and if any are present, examination with the finger is advisable. There are a great many of these conditions arising from infections which are quite easily overlooked. Many of us feel that examination is unpleasant and are inclined to pass it up.

The treatment of fistula requires a great deal of careful after-attention.

Dr. Hermance, in closing: Every hospital should have some surgeon as proctologist. Any one can fool along in this so-called "unnecessary specialty." We are striving for a dignified proctology. I do not think the proctologist should fool with cancers where they involve abdominal work.

Pruritus ani is the despair of all proctologists. Most cases are relieved; some are cured. The causes are either local or systemic. Treatment requires a study of the general condition, elimination of intestinal flora, etc. The newest remedy is "benacol." It is oily, obtained in ampules, and it is injected under the muscles. It gives more relief than anything else of which I know.

All sorts of terrible diseases are diagnosed, and then a fecal impaction is found. No person who is honest should promise that any operation will cure an abscess. Any one will have to operate a second time. The little submucous abscess may be healed nicely by a single incision, but most will need other operations.

Aside from the usual means of diagnosing carcinoma (x-ray and the sigmoidoscope), I cannot add any suggestions. Dermoids are not properly called dermoids. I once said I had never seen a pilonidal sinus except in a South American or one from the Baltic shores. I was wrong; they are never seen except in dark-skinned people. After the war we had a great many of them in the returned soldiers. They occur in the midline dimple. They are found only in very hairy people. The only trick in operating is to go far above and far below, and not put in sutures. These patients must be seen every day, and the wound not allowed to close over.

Dr. Lewis H. Taylor presented to the Society a picture of Dr. William Beaumont and a photostatic copy of a letter from Dr. Beaumont to his cousin Andrew Beaumont, of Wilkes-Barre, written from Jefferson Barracks, Missouri, in October, 1834. These were presented by André Beaumont through the courtesy of the Beaumont Medical Club of New Haven. The original portrait is in the possession of Dr. Beaumont's granddaughter, Miss Sophie Beaumont, of Green Bay, Wisconsin.

Dr. Taylor told of the youth and education of Dr. Beaumont and of his medical studies and assignment to the army post at Fort Michilmac in Michigan, where the accidental gunshot wound of the abdomen subsequently made one Alexis St. Martin one of the most famous subjects in the history of physiology, and gave the young army surgeon, Beaumont, the opportunity "to grasp the skirts of happy chance." Dr. Taylor told how the Luzerne County Medical Society Library came into possession of a copy of the second edition of Beaumont's work, published in 1847, through the Library Exchange in 1913. He told how Dr. Joseph Walsh, of Philadelphia, presented the library with a copy of the first edition of "Experiments and Observations on the Gastric Juice" in 1922.

The essayist described Beaumont's several experiments on St. Martin, and told of the trouble and expense experienced by the scientists in keeping his subject within his control for observation. His correspondence with his cousin, Andrew Beaumont, member of Congress and forefather of the present family in Wyoming Valley, was sketched with particular emphasis in the letter of 1834 relating to his memorial to Congress appealing for an appropriation to reimburse him for expenses incurred in the studies on Alexis St. Martin. This memorial was never acted upon by Congress, and Dr. Beaumont was never reimbursed. He died in 1853 while enjoying a lucrative private practice in St. Louis.

LEWIS T. BUCKMAN, M.D., *Reporter.*

LYCOMING—NOVEMBER-DECEMBER

The regular monthly meeting was held at City Hall, Williamsport, on the 11th, with Dr. John B. Nutt presiding.

The report of the Board of Directors was approved, comprising the following: (1) That a tablet be erected in the Williamsport Hospital as a memorial to the members of the society who were in service during the World War. (2) That an amendment be added to the By-Laws increasing the dues from $10 to $15 per year. These recommendations were passed unanimously.

A scientific program was presented as follows:

Dr. R. J. Bower: Fractures of the Elbow.—Fractures about the elbow region are always a cause of serious concern. The reasons for disaster are anatomic. The elbow is a complicated articulation made up of three bones. Nerve trunks and blood vessels are in intimate relation to the bones making up the elbow joint.

The common fractures about the elbow may be single, compound, associated in combinations, or with dislocation. Before the eighteenth year, separation of the epiphyses in the elbow region must be considered in all injuries to the elbow. Due to the carrying angle, when the elbow is in right-angled flexion, the tip of the olecranon, the internal condyle, and the external condyle form a triangle. In extension these bony joints move into direct line with one another, and the head of the radius is felt about a half-inch distal to the external condyle.

The examination of the elbow is to be made with the greatest care. Anesthesia is often necessary for diagnosis and reduction, and the x-ray is essential. Compare the injured elbow with that of the opposite side in a similar position. In the normal extended elbow, the tip of the olecranon is a trifle below the intercondyloid line, but nearer the internal than the external condyle, while the three points are in a plane parallel to the back of the arm when the forearm is flexed to a right angle. The intercondyloid line is perpendicular to that of the axis of the arm. All elbow injuries are possible combinations of fracture, nerve injury, and Volkmann's contracture.

Treatment. The first step is reduction of bone displacement under general anesthesia. Acute flexion of the forearm on the arm is the best form of treatment for elbow fractures except those of the olecranon, T-fractures of the humerus, fractures with great swelling, and fractures involving the groove of the ulnar nerve. The Jones position or any kind of firm compression should not be used immediately after the accident because of the danger of ischemic myositis. Acute flexion preserves the carrying angle, holds the fragments in proper position, and gives a useful elbow even in the presence of ankylosis. The danger of limitation of motion should be explained to the patient.

Volkmann's contracture arises from one thing—interference with the venous return. It is a muscular contracture, and may happen in the entire absence of constriction due to dressings or splints.

The possibility of injury to the musculospiral, median, and ulnar nerves must always be thought of. In after-treatment, functional use should be allowed and exercise encouraged. Do not actively seek to restore motion by "pump-handle" methods when stiffness is due to muscle spasm.

Dr. L. M. Knauber: Fractures of the Femur.—The immediate treatment of fractures is based upon two principles—the correction of the deformity, and the holding of the fragments in normal apposition until

they grow together. A fractured limb should be kept as still as possible, and the clothing should be cut away so as to disturb the fragments as little as possible. The subsequent treatment of fractures of the lower extremity should be conducted on a hard bed. This can be accomplished by placing boards between the springs and mattress. General anesthesia is an aid to diagnosis and reduction by overcoming muscular spasm and pain.

Immediate and complete reduction is the thing. Experience has impressed the speaker with the fact that if a given way for extension does not correct the deformity in a few minutes, it never will. An important obstacle to reduction, which is often mistaken for muscular resistance, is the interposition of soft tissues or loose pieces of bone between the two fragments. In this case, operative exposure and removal of the offending objects is the best method.

Reduction and immobilization should be attempted as soon as possible after the accident. After a permanent splint is applied, there should be little or no pain. If pain persists, something is wrong. If good position is apparent and function is restored, the treatment may be regarded as successful, even though the x-ray shows the position of the fragments not accurately restored.

Fractures of the neck of the femur are more common in late adult life. Impacted fractures unite readily. In unimpacted fractures, the abduction method has proved to be the most satisfactory form of treatment. With general anesthesia, the pelvis supported, and the uninjured limb abducted to fix the pelvis, the injured limb is first flexed and then rotated sufficiently to disengage soft parts. It is then completely extended and abducted. A plaster-of-Paris spica is applied and retained for eight to ten weeks. After its removal, massage and motion are instituted.

Fractures of the shaft of the femur require suspension and extension. Traction is made in the axis of the limb under general anesthesia, and after apposition is secured, a Thomas splint and Buck's extension apparatus is applied.

Be positive of six things: (1) Observance of shortening in the injured thigh. (2) Prevention of outward bowing. (3) Prevention of permanent rotation of leg and lower thigh outward below seat of fracture. (4) Prevention of backward sagging at seat of fracture. (5) Mobilization of knee joint. (6) Mobilization of ankle joint.

Dr. G. L. Schneider stressed the use of the infra-red lamp for three to five days after fracture. He also prescribes diathermy in fractures of the elbow to prevent ankylosis.

Dr. A. F. Hardt spoke of the importance of passive motion and early massage and of the dangers of too long fixation, especially of the elbow. He recommended a conservative attitude towards open operation on elbow fractures. Volkmann's contracture, due to too tight bandaging, gives very poor prognosis for recovery. Sufficient abduction in the treatment of fractures of the neck of the femur was emphasized.

Dr. T. K. Wood, of Muncy, reported a case of gas gangrene in a boy ten years of age, who had sustained a compound fracture of the wrist. Gas gangrene developed in twenty-four hours.

Dr. R. J. Bower, in closing, also emphasized physiotherapy as an adjunct to speeding up the recovery from fractures.

The December meeting was held in City Hall, Williamsport, on the 9th, with President John B. Nutt presiding.

Dr. Thomas G. Simonton, President-Elect of the State Society: Some Unusual Clinical Manifestations of Syphilis.—Syphilis may attack any nerve in the body. It is important to examine first the pupillary reflexes, and then to look for any perforation of the nasal septum. Sometimes, when examining a patient for the first time, this determines the line of investigation, and aids greatly in arriving at a definite diagnosis.

Dr. Simonton classified the types of the disease, and cited cases affecting the respiratory, gastro-intestinal, nervous, and circulatory systems.

Before submitting to operation, medical treatment should be tried in stomach cases in which the x-ray findings and clinical symptoms do not check up with one another, yet in which the Wassermann is positive. As an aid in the proper treatment and management of the case, a Wassermann test should be made in all cardiac cases, whether they are valvular, myocardial, coronary with occlusion, or thrombotic, in all the arhythmias, and in all cases of decompensation. If this is done, some almost miraculous cures will result.

Dr. Edward L. Bauer, Professor of Diseases of Children, Jefferson Medical College: A Present-Day Review of Poliomyelitis.—Poliomyelitis is not primarily an affection of the central nervous system, but is a general systemic disease. Autopsy demonstrates that it notoriously invades the liver and, to some extent, lymphoid and other tissues with definite inflammatory changes. Toxins are carried by the blood stream through the body. There are various types of the organism. The most prominent early symptoms noticed this year were nervousness, fretfulness, alertness, sore throat in some cases, and, in the greatest number of cases, hyperesthesia. The retraction of the head is not decided, as it is pulled back for comfort, and is not very rigid except in the encephalitic type of case. The spinal fluid is under pressure, is clear, and with a high cell count, largely mononuclears, sometimes as high as 1,000. There is a wide range in the cell count, depending largely on when the fluid is taken.

Early diagnosis is important if serologic treatment is to be used. Lumbar puncture should be done early, and repetition of this procedure will do much to reduce the severity of the paralysis, continuing as long as the fluid is under pressure. The most beneficial serum is that from convalescent patients, administered intravenously, not intraspinally, in a single dose of 15 to 20 c.c. Prepared sera have not given very favorable results. Unfortunately, convalescent serum is extremely difficult to procure, and is not always available. Repeated lumbar puncture, Epsom salts by mouth, and rest do the most for the patient. For the pain, heat in the form of an electric bulb under a canopy is helpful. Massage should not be practiced early. The patient should lie on a firm bed with the feet propped up, and the extremities should be moved a little at frequent intervals. Massage is helpful, but care must be taken that no pain is induced. It may be four to six weeks before the fever subsides. Light braces should be used at first to correct the deformity. Heavy braces increase fatigue, and this is not desirable. Adrenalin and hexamin intraspinally are not to be used. Intraspinal treatment should consist in the removal of fluid, not in the introduction of it. Epsom salts by mouth is helpful in dehydrating the spinal cord, and bromids are useful in quieting the patient.

W. E. DELANEY, JR., M.D., *Reporter.*

PHILADELPHIA

November 30, 1927

The President, Dr. Frederick S. Baldi, in the chair.

OBSTETRICAL NIGHT

Dr. Paul J. Titus, of Pittsburgh: The Treatment of Toxemia of Pregnancy.—Two points must be remembered in considering this complex subject: first, that the development of toxemia of pregnancy depends on a glycogen deficiency in the mother; second, that all toxemias of pregnancy, from hyperemesis gravidarum to eclampsia, are closely related. Hyperemesis gravidarum is the result of insufficient carbohydrate intake, fetal growth, uterine hypertrophy, and, as a consequence of these, glycogen deficiency in the tissues, which condition always produces nausea and vomiting.

In 1920 the speaker suggested the intravenous injection of hypertonic glucose solution and was rewarded with favorable results. Study revealed that lowered blood-sugar levels were characteristic of hyperemesis gravidarum, and that convulsions were hypoglycemic reactions. The same phenomenon is witnessed in insulin overdosage or in experimental extirpation of the liver. In eclampsia, therefore, although the muscular activity of the convulsion produced an excess of blood sugar, the presence of a preceding hypoglycemia was suspected. To prove this it was necessary to obtain a long series of blood pictures, and these evidenced marked fluctuations of blood sugar (in one case as much as a 110-milligram change in fifteen minutes) with the convulsion preceded by a sudden actual or relative hypoglycemia. Spontaneous hypoglycemia in marathon runners or after hunger has been reported to have had similar results. (Slides were shown here, picturing the steady blood-sugar curves found in normal pregnant women and the markedly fluctuating ones characteristic of eclampsia cases.)

Other research work will reveal new facts, from the veterinary field coming the statement that in parturient paresis in cows there is a hypoglycemia resembling human toxemic conditions. Wilder states that the progressively increasing blood pressures in the toxemias of pregnancy are due, not to the nephritic findings, which are probably secondary and incidental, but to the hypoglycemia. The characteristic differences between hyperemesis, which is usually slowly progressive, and eclampsia, which is relatively acute, are minor ones, and fulminating hyperemesis, often termed "acute yellow atrophy of the liver," may occur. In the preeclamptic and eclamptic cases the progress is rapid, with continued glycogen depletion, increased blood pressure, nephritis, and convulsions.

The principles of treatment in the various phases of toxemia of pregnancy, however, are the same—concentration of the remaining glycogen stores by muscle rest and relaxation through sedatives and opiates, and restoration of glycogen by the administration of carbohydrate orally, rectally, and intravenously. A mild case will require only careful instructions for a high carbohydrate diet and one- or two-hours' rest in the morning and afternoon. A moderately severe case must be isolated from the family, nourishment and water must be withheld, 300 c.c. of glucose must be given twice daily, and chloral and bromids administered by rectum. After a few hours, high-sugar nourishment must be given at small intervals. For the preëclamptic case, salt should be excluded, protein cut down, the bowels regulated, carbohydrate increased, and glucose solution with fruit juices pushed.

Eclampsia calls for morphin by hypodermic, chloral hydrate by rectum, and magnesium sulphate hypodermically, both for its sedative and eliminative action. Until fluids can be taken by mouth, injections of 25 per cent glucose solution (300 c.c. at a time) should be given every four or five hours intravenously, about an hour and a quarter to an hour and a half being taken for the administration (4 c.c. per minute), since too rapid injection results only in a spilling of glucose through the urine. This solution is antidotal, liver sparing, and restores water and glucose to the tissues. The results are diuresis, cessation of the convulsions, and return to consciousness. If labor begins during eclampsia the child must be delivered, though, if possible, the pregnancy should be continued for some days after the attack.

The question has been raised as to the advisability of adding insulin to the glucose solution, but this is contraindicated for the nondiabetic. The acidotic woman can produce her own insulin. Certainly insulin should never be given without glucose, assuming a hyperglycemia, for, as has been said, though muscular activity during convulsions may indicate a hyperglycemia, the condition results from a hypoglycemia. Underdosage of glucose must be avoided, the solution being made up to 50 to 75 grams of glucose in 200 to 300 c.c. of distilled water. Ampules of this solution, ready for intravenous administration, can be purchased and may be kept for a long time.

Slides showed the technic of proctoclysis, both by Murphy drip and Harris tidal stand (level of fluid at level of patient's abdomen, given through rectal tube), and a motion picture demonstrated the technic of the intravenous injection of glucose.

In discussion, Dr. P. Brooke Bland commented upon the interest and profit derived from this splendid paper by Dr. Titus, a "creative propagator of the science of obstetrics." The toxemias of pregnancy constitute an obscure problem and are still diseases of theories, for we have yet to discover the cause or causes of metabolic disturbances in these conditions. Because of the wider antenatal practice, preëclampsia and eclampsia are rare today, but nausea and vomiting are common. Grave hyperemesis is avoidable, as portrayed by the essayist, but in the cases with organic hyperemesis and approaching visceral degeneration it is often necessary to empty the uterus, since the patient is beyond the stage of favorable results with therapy as indicated. Since no group of similar diseases occurs elsewhere, we may assume that the growing fetus is responsible, especially as the condition subsides when pregnancy is terminated, and natural, spontaneous expulsion of the uterine contents has saved many women. Nature precipitates labor in favor of the mother alone. When no definite improvement follows a trial of therapy one life must be saved, the speaker preferring that of the mother. If the essayist's theory is proved, a complete revision of the subject will be necessary.

Dr. Norris W. Vaux: Obstetrics as Seen by the Motion Picture Camera.—The motion pictures showed normal deliveries, version and extraction, forceps applied to the after-coming head, repair, care of the child, cesarean section, etc.

Dr. Ralph M. Tyson: The Management of the Newborn Infant.—This subject is so large that but few of the factors in the management of these babies can be here considered. The problems of the newborn are interesting, and the results of treatment unequaled. The normal must be known. While the average loss in children is 8 per cent of the birth weight, this is

regained in about 60 per cent by the ninth day. The newborn should be bathed with olive oil after six to twelve hours, then daily water baths at 100° are given until the cord is dry. Acute infection in the newborn must be prevented, since their defense is rudimentary, and an infected baby should be isolated. For acute coryza, which is indicated by inability to breathe or suckle, the child should be given intranasally albolene containing a half-grain each of menthol and camphor, it should have fresh air, and should be given 1/1,000 gr. atropin sulphate.

The importance of breast feeding is great, since in New York over 85 per cent of infantile deaths occur in the artificially fed, and in Boston six times as many artificially fed babies die as breast-fed ones. Sleep and rest, often for twenty-four hours, are needed after delivery, though the baby should be put to the breast in six to ten hours for five minutes, three times in the ensuing twenty-four hours, then oftener, for colostrum raises the bactericidal properties of the baby's blood, and sucking encourages secretion. The slow breast and the delicate baby constitute a problem. Usually after the second or third day the breast milk increases daily to the tenth or eleventh day, and the average amount of milk taken is greater on four-hour than three-hour feeding. Though there be a weight loss in the baby, weaning should not be encouraged, for some milk matures late, and a complementary cow's-milk formula may be given after each feeding, as follows: whole milk (boiled) 7 ounces, milk sugar 1 tablespoonful, boiled water 14 ounces—made into seven bottles, each 3 ounces.

MARY A. HIPPLE, M.D., *Reporter.*

SOMERSET—NOVEMBER

At the meeting held on November 15, the following officers were elected for 1928: president, Dr. J. E. Dull; vice-president, Dr. J. M. James; treasurer, Dr. C. W. Frantz, reëlected; secretary, Dr. H. C. McKinley, reëlected; assistant secretary, Dr. B. H. Hoke, reëlected.

The reëlected secretary was greatly interested in the organization of a medical society in Somerset County in 1882, and he was elected secretary of that organization continuously for seven years. In 1889 that society became a component society of the Medical Society of the State of Pennsylvania, and he was again elected the secretary. He has served in that capacity continuously until now. At the September meeting of the society he notified the members that he wished to be relieved of further duty as secretary and did "not choose" to be reëlected. The statement did "not choose" was not considered and reëlection resulted.

Dr. Edward Jew, of Pittsburgh, delivered a lecture on "Diseases of the Rectum," showing by lantern slides the conditions that may exist, and stating the proper course of treatment or operation necessary.

H. C. MCKINLEY, M.D., *Secretary.*

WARREN—DECEMBER

The December meeting was held on the 19th, with twenty members present. A committee was appointed to obtain signatures for an appeal to the Healing Art Commission.

Officers were elected as follows: F. G. Schuler, president; G. T. Pryor and G. M. Bradshaw, vice-presidents; R. F. Otterbein, secretary and treasurer.

Dr. R. L. Young presented a comprehensive paper on the "Anatomy, Pathology, and Treatment of the Tonsil," which was discussed by several of the members.

An x-ray picture of a fetus showing fused eyes in the center of the forehead, absence of nose, and fusion of the occiput to the middle of the back was shown.

Drs. W. M. and H. R. Robertson, Russell, and Schnehl were hosts at the dinner.

M. V. BALL, M.D., *Reporter.*

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

MRS. E. KIRBY LAWSON, *Editor,*
2533 Walnut Street, Harrisburg, Pa.

GREETING FOR 1928

A letter was recently sent to all the organized counties, and I would refer to the recommendations contained therein with the hope that they may be carried out according to the individual needs of the different localities.

The preceding years of the Auxiliary have been given to organization, solid foundation policies, and the *Hygeia* campaign—all of which have been most essential to the good of the organization. It is the aim of your president this year, in order to make it successful, to have as our principal objective the increasing of the Medical Benevolence Fund of the State Medical Society. This very deserving fund is a concrete object on which the Auxiliary may concentrate its efforts. It will not in any way conflict with already existing obligations, and the plan is approved by the State Society president and Board of Trustees as both commendable and acceptable. What will your county do for this fund?

Your president will be glad and ready to give suggestions, visit any of the counties, or help in any way possible.

I take pleasure in announcing the appointments to the Nominating Committee, which are as follows: Mrs. J. I. Johnston, Allegheny County, *chairman;* Mrs. C. L. Frey, Lackawanna County; Mrs. H. C. Frontz, Huntingdon County; Mrs. W. J. Walker, Westmoreland County; and Mrs. F. C. Bolton, Philadelphia County.

On page VIII of this number of the JOURNAL the officers and chairmen of committees will be found.

Best wishes for the coming year!

MARY M. (MRS. CHARLES H.) SMITH,
President.

COUNTY AUXILIARY REPORTS

ALLEGHENY

The proceeds of the bridge party held in the William Penn Hotel, Pittsburgh, on December 5th are to go to the establishment of a place for the Auxiliary in the permanent home of the Allegheny County Medical Society.

It is most appropriate to review some of the things which the Auxiliary, in its three and a half years of existence, has accomplished.

Its object: The By-Laws of the Woman's Auxiliary state that the object shall be to promote the interests of the Allegheny County Medical Society in every way possible.

What the Auxiliary has done: At the request of the American Medical Association, the Auxiliary put the *Hygeia* extension program across. Through the Hygeia Extension Committee, *Hygeia* was placed in all the public high schools, parochial high schools, and grade schools in Pittsburgh, and in many of the county schools. *Hygeia* is now being used as a textbook or reference work, and is meeting the demand of teachers and educators most satisfactorily.

The Auxiliary secretary received a letter of thanks from Red Cross headquarters for a gift of one hundred dollars to the sufferers of the Manchester district explosion disaster. This money was at hand ready to send when needed.

The books which the children are reading at the Children's Hospital were given by the Auxiliary—a gift worthy of any organization.

Wherever and whenever this Auxiliary is needed for higher health ideals it stands ready to do its bit.

New members reported for the November meeting were: thirty-five active, two honorary, and one associate.

PHILADELPHIA

The regular meeting of the Woman's Auxiliary of the Philadelphia County Medical Society was held at the home of the Society in Philadelphia on Wednesday, November 30th, at 2:30 p.m.

Dr. Henry D. Jump made a very interesting address on "How to Weigh Just Enough."

The Aid Association Committee reported a very successful rummage sale. The next activity planned by this committee was a card party held at the home of the Society, on Monday, December 12th, at two p.m. In connection with this party there was a sale of fancy articles, with Mrs. William D. Robinson, Mrs. McCluney Radcliffe, and Mrs. Lee McKinstry Bryan in charge. The cake and candy table chairman was Mrs. R. T. Grime.

The proceeds from the affairs held by this committee help to increase the fund being raised for the benefit of the Aid Association of the Philadelphia County Medical Society, whose members are engaged in the administration of a charity the value of which can not be overestimated.

WESTMORELAND

On Wednesday, December 6th, the Westmoreland County Auxiliary held a luncheon at the Elk's Club, Greensburg. The honor guests were the Pennsylvania State president, Mrs. Charles H. Smith, of Uniontown, and Miss Irwin, Superintendent of Westmoreland Hospital.

Following the luncheon, Dr. Charles Taylor, of Irwin, gave a brief talk in which he stressed the importance to the medical profession of the Auxiliary's voting power and political influence. Mrs. Smith explained the Medical Benevolence Fund of the State Society, and appealed for loyal support in raising the amount of money necessary to put the fund on an endowment basis.

Arrangements were made for giving Christmas baskets to several needy families of the county who are known by club members to be worthy.

Mrs. Ambrose, of Ligonier, announced that Dr. Ambrose, editor of the *Westmoreland County Medical Bulletin*, will in the future devote a whole page of his publication to Auxiliary news, and will mail a copy to each member of the organization. This kindness and thoughtfulness is greatly appreciated.

The January meeting will be purely business in character and will be held in the living room of the nurses' home at Westmoreland Hospital, Greensburg.

Mrs. Paul G. McKelvey.

SOAP AND BACTERIA

Soap acts on bacteria in two ways. It removes them mechanically, through its action on grease and other food particles; it may also hinder their growth or kill them. To be an effective germicide, soap must be in actual contact with the bacteria for a sufficient length of time. A concentration of 0.5 per cent of soap is suggested by *Hygeia* as a safe minimum for dish water. Hot water is always the best, because it not only increases the efficiency of practically all soaps, but is also one of the common agents of disinfection.

This hot, soapy water should be forced over and into the dishes mechanically or by a hand contrivance such as the mop or brush so that it penetrates all curves and corners. It should be renewed as soon as cool or dirty, or devoid of suds. Clear hot water, preferably running, should be used in rinsing. The dishes need not be dried by towel if the rinsing water is hot enough and can drain off. In fact, an otherwise efficient dishwashing method may be quite nullified by a soiled bacteria-laden towel.

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Not only in restaurants, but at home, too, there is danger of cross infection. Influenza, colds, and other diseases, will be impeded in their travel from brother to sister and all around the family circle if care is taken in cleansing not only the pots and pans but also the dishes and tableware. The liberal use of soap and hot water, while adding to the pleasure and comfort of the dining table, is a health preserver as well.

Where towels are used for drying, care should be exercised that they are spotlessly clean, for where can germs breed more easily than on a soiled towel hanging damp in a warm, moist atmosphere between one drying of dishes and another?

Perhaps the hand that washes the dishes rules the world anyway, but at least it has much to do with the protection of health. Cleanliness in the kitchen guards you from many a slip 'twixt cup and lip.—*Cleanliness Journal*, December, 1927.

THE

MEDICAL SOCIETY OF DELAWARE

THE RELATION OF THE MEDICAL PROFESSION TO PERIODIC EXAMINATIONS AND INSTRUCTION OF THE PUBLIC ON HEALTH AND PREVENTIVE MEDICINE*

JOSEPH COLT BLOODGOOD, M.D.
BALTIMORE, MARYLAND

There seems no doubt that enlightened and intelligent people are realizing more and more the value of a medical adviser and the periodic examination. Just as transportation is changing to meet the needs of changing modes of living on this earth, so there must be a change in the practice of medicine.

The great advantages of the discoveries and inventions of modern scientific medicine are best obtained through the medical adviser and the periodic examination. When one goes for a periodic examination there is naturally a conversation on the new things in medicine and the rules of health.

Often over night hopeless diseases become curable. It is less than three years since it was discovered in the laboratory that pernicious anemia, formerly a hopeless disease, could be controlled and cured by what is called a high-protein diet, consisting chiefly of liver, kidney, sweetbreads, and calves' brains. The old treatment with iron is superseded. People have not yet realized that the proper administration of iodin before operation for a toxic goiter makes this operation safe. To reap the full benefits of diet in anemia, insulin in diabetes, iodin in all forms of goiter, digitalis in heart disease; to get the best protection against preventable diseases such as smallpox, diphtheria, tetanus, typhoid fever, one must have a medical adviser for periodic examinations and conversations. The discoveries and improvements in scientific medicine are taking place as rapidly as the progress in automobiles, airships, and electricity.

Each year more and more expectant mothers are placing themselves at once under the prenatal care of the medical and nursing professions. The science of obstetrics has made such great advances that rarely should a mother or child die or even suffer much discomfort. More and more infants and young children are placed under the care of pediatricians. Proper diet and supervision between birth and school age are very essential for the future welfare of the child.

Even many parents do not realize the remarkable advance that has taken place in the physical examinations and supervision of the health of children in public and private schools by the nursing, dental, and medical professions. It has gone on so rapidly that the majority of parents have not yet caught up or done their part. Many enlightened parents who can afford it have medical advisers for their children, and have their teeth, tonsils, adenoids, eyes, hearts, backs, and feet looked over when there are no symptoms of trouble. Up to the present time the detection of defects in school children has gone on more rapidly than their correction.

Up to the present time too little attention has been paid to the mental inspection of children and the earlier and easier correction of defects in the nervous system. We have largely taught the masses neither to fear nor shy at tuberculosis. We are beginning to influence the people in a correct attitude towards cancer. But today the majority of us fear and conceal mental symptoms and defects, and shy at an examination by a trained psychiatrist. The word insanity should create no more fear than tuberculosis or cancer.

Deaths among mothers, infants, and children have been tremendously decreased by medical supervision and periodic examinations, proper diet, and preventive serums and inoculations. All members of society have reaped the benefit of good water, clean milk, supervised foods, and better sanitation of all kinds. But when young adults leave the schools, they, as a rule, leave medical supervision and its protection behind them, and face the dangers that precede middle life. A delicate individual, one who is forced to be under the care of a physician, if properly handled, may live longer and accomplish better work than one who starts in perfect physical and mental condition.

The training in our schools, from beginning to end, is absent or inefficient in giving children

*Read before the Medical Society of Delaware, Farnhurst, Del., Wednesday, October 12, 1927.

correct information for their protection later in life, and for successfully establishing, in addition to this necessary knowledge, proper rules of health and conduct. In the opinion of many students, the greatest need today is the establishment of a systematic course in health and preventive medicine in the schools of this country and throughout the world. It is not a new idea, but it is more frequently preached than practiced. Good books have been written for the school children of India, but none for other parts of the old British Empire, nor for this country.

It would appear that the only way to keep up the training, after boys and girls leave school, is by periodic examinations and medical supervision, a scheme which is now well established in many industries. For the large number who read, there can be magazines such as *Hygeia,* published by the American Medical Association, and books written for this special purpose. Many can be reached through the public press and the radio. Then there will be a large mass of people who can be instructed and protected only through social service and the district nurses.

With the increasing dangers of modern life, and with the tremendously increasing dangers of ignorance of modern scientific medicine, many authorities have come to the conclusion that better results might be obtained if the state, through its Health Department, should take control of the education of the people on health and prevention of disease, just as they have taken control of education in general.

We have records in all the large clinics in the world that up to about 1890 cancer was practically a hopeless disease due to the ignorance of the people of the danger of delay and the incomplete development of modern surgery, made possible by Pasteur and Lister. By 1900 the surgical treatment was well established, but between 1890 and 1900 less than 10 per cent of cancer patients, treated in the best hospitals of the world, were cured. The patients, due to their lack of information on the danger of delay, waited until the disease was hopeless in more than half the cases, and these wonderful operations produced a cure in but 2 per cent of the remainder.

Mark Twain was right when he said it took twenty years to get an idea into the human mind. We have been educating the people in regard to cancer for twenty years, and the most definite results were not seen until 1920. Now, in these same clinics and in many others that have arisen, cancer is hopeless in less than 10 per cent of cases instead of more than 50 per cent; and cures have been accomplished in more than 60 per cent instead of 20 per cent. X-ray, radium, diathermy, and coagulation have been helpful in the first type of operative treatment, but the great cause of the improvement has been an educated and enlightened community.

What has been accomplished for cancer was previously accomplished for tuberculosis. It makes no difference what the disease is, its control, prevention, and cure depends just as much upon the education of the people as it does upon the education of the medical profession. The term "medical profession" as used here means all those professions that have to do with the recognition, prevention, and cure of disease.

The object of the Community Health Committee in Baltimore and the State of Maryland is to bring before the people just what the dangers are and just what provisions we have now for our own protection, with the hope that it will lead to a thorough study of the situation and great improvement for the benefit of the people.

At the present time the majority of the races of man living in this country and all civilized countries are not getting the greatest good out of the medical profession, the health departments, and the hospitals. All of these agencies are maintained at the expense of the people. There is no evidence from which to conclude that the cost will be any greater to the people if they are to enjoy and reap the benefits of what all the agencies of modern scientific medicine can do if they are given an opportunity.

What we need most now, to repeat, is a systematic course in the schools and a better method of keeping everybody informed after the school age, and getting them under medical supervision. There is a sufficient number, though small, of such people under medical supervision, and there is no question as to the better results. There is also no question that it is economical. It should in no way interfere with liberties, rights, or individualism.

THE LIVER TREATMENT OF PERNICIOUS ANEMIA

Report of Two Cases

LEWIS BOOKER, M.D.
New Castle, Del.

Prior to the use of a diet rich in liver the treatment of pernicious anemia had been very unsatisfactory, consisting mainly of rest in bed for varying lengths of time, with increasing doses of arsenic. The great majority of cases so treated died, the average course of the disease being about one year. Osler[1], quoting Cabot,

states that in a series of 1,200 cases there were ten with a duration of seven or more years, but only six which he regarded as having recovered completely.

In 1925, Whipple[2] and his collaborators showed that in secondary anemia produced in dogs by repeated bleedings, blood regeneration had been most promptly brought about by feeding them liver.

In 1926, Minot and Murphy[3], using this as a basis, recommended the treatment of pernicious anemia with a diet containing large quantities of cooked liver—calves', beef, or pig, supplemented with other foods. They reported forty-five cases that had been remarkably improved by this diet. They chose liver because it had been shown that it exerted a great influence on the regeneration of hemoglobin, and they hoped it might contain a substance that would promote the growth of red blood cells.

There are several theories as to action of liver in this disease: (1) that it contains a specific protein or nucleoprotein; (2) that it has a very high vitamin content, especially E; (3) that it contains some unknown specific substance. There is also a very high content of iron, but it seems to be doubtful that this has any great influence on the blood.

The diet which Minot and Murphy suggested, and which was used in my two cases, is as follows:

(1) Liver (calves, beef, chicken) or kidneys (lamb) freshly cooked. At least 120 gm., preferably 200 gm. or more (cooked weight). Cook without fat—broil, bake, boil, mince, or make into soup.

(2) Fruits, preferably fresh—especially peaches, apricots, pineapple, strawberries, oranges, and grapefruit—about 400 gm. Raisins are desirable, and should be eaten freely.

(3) Red muscle meat, trimmed free of fat and freshly cooked, 100 gm. or more. Beef heart is desirable.

(4) Vegetables containing one to ten per cent of carbohydrates, preferably fresh (cooked or raw), not less than 300 gm. Lettuce, spinach, asparagus, cabbage, and tomato are especially desirable.

(5) Fats are restricted, not over 70 gm. being allowed. Cheese, bacon, and fried foods should be avoided, and but little cream and butter allowed and not over one egg. Mineral oil should be used for salad dressings.

(6) Grossly sweet foods should be avoided, but sugar may be allowed sparingly.

(7) Starchy foods, such as cereals, potatoes, and breads, may be added to suit individual desires, but not to the exclusion of the above requirements. Whole-wheat toast is desirable.

(8) Milk is best limited to about 240 gm.

(9) An excess of salt must be avoided. Tea and coffee are permitted as desired.

The ideal method would be to weigh all food. At first the liver must be weighed, but in a short time the approximate amounts can be judged.

It is interesting to note that Koessler and Maurer[4] advocate a diet high in fat content, and claim equally as good results. Also, liver has been given raw, and it may be necessary to use the stomach tube.

It is very probable that achlorhydria exists some time before a diagnosis of anemia can be made. For this reason, increasing doses up to a teaspoonful of dilute hydrochloric acid are given three times a day.

The first of the following cases received four injections of tryparsamid; the second, none.

CASE 1. E. C. R., white female, housewife, was first seen in January, 1927, at which time the chief complaint was general weakness, with numbness and tingling in the legs. The weakness had been gradually progressive for a year, and the numbness and tingling began about three months previous, and had gradually extended to the entire lower extremities. Several small ulcers of the tongue were also noticed. There had been no urinary or cardio-respiratory symptoms. The digestion was good, but there was slight loss of weight. The past medical and family history were negative.

Physical examination showed a systolic pressure of 138, diastolic 84, temperature 99.2°, pulse 96. There was a faint but distinct yellowish tinge to the skin. The mucous membranes were pale, the sclera clear, and the heart, lungs, and abdomen negative. On January 31st the blood picture was as follows: hemoglobin 60 per cent, red cells 3,130,000, white cells 7,700, polymorphonuclears 45 per cent, small mononuclears 50 per cent, large mononuclears 3 per cent; no poikilocytosis.

The patient was put to bed, and given arsenic hypodermically. By February 20th there was no improvement, and she had a very marked amount of mental depression. The Wassermann was negative, and the stomach contents showed absence of free hydrochloric acid. Blood analysis showed: hemoglobin 68 per cent, red corpuscles 2,270,000, white corpuscles 8,800, nucleated red cells, and poikilocytosis.

The patient was put on the diet given above, and began to improve immediately. On March 14th the blood showed: hemoglobin 81 per cent, red cells 3,620,000, white cells 6,900. The cells were in much better condition, and there was marked improvement in the paresthesia of the hands and feet.

Blood examinations were made at intervals of a month, the last one on September 26th being practically normal. With the exception of mental depression and some fatigue, the patient is in good physical shape.*

CASE 2. I. L., male, white, aged 44, formerly employed in a pigment and chemical plant, first came under my care on July 12, 1927. He had been continuously in bed for three months, and was extremely weak, being unable to turn or to raise himself in bed. He gave a typical history of pernicious anemia of about eighteen months' duration, and had had various treatments and diagnoses, from cancer to Addison's disease, and had been told there was absolutely no chance for him. The past medical and family history were negative.

*Since this paper was written, a gastric analysis was done in this case, and total achlorhydria found. In a personal communication from Dr. David Riesman, he states that in practically no case of pernicious anemia has there been a return of free hydrochloric acid, no matter how much improvement there has been in the patient's blood.

There was a very deep yellowish tinge to the entire body, the lips and mucous membranes were pale, and the sclera yellow. The systolic pressure was 125, the diastolic 60, the temperature 99°, and the pulse 100. Appetite and digestion were poor. The feet and ankles were edematous, and there was marked paresthesia of the lower extremities. He said they felt as if they were asleep all the time. The remainder of the physical examination was negative.

On July 19th the blood picture was as follows: hemoglobin 20 per cent, red cells 700,000, white cells 2,600, polymorphonuclears 56 per cent, small mononuclears 40 per cent, large mononuclears 2 per cent, transitionals 1 per cent, eosinphils 1 per cent, marked poikilocytosis, normoblasts, megaloblasts, and basic degeneration. The urine was negative, and no Wassermann nor gastric analysis was done.

The patient was put on a liver diet July 20th. His appetite became enormous, and has remained so. The blood picture on August 9th showed: hemoglobin 52 per cent, red cells 2,430,000, white cells 5,700, no nucleated reds, slight poikilocytosis. He could easily raise himself in bed, and there was marked improvement in his color. In addition to the cooked liver, he very easily took raw liver in orange juice or with lettuce as a sandwich, the liver being first ground up.

The next blood examination on September 3d showed: hemoglobin 73 per cent, red cells 3,500,000, and white cells 9,000. By this time he was able to get out of bed without aid, and could walk across the room with considerable difficulty.

The final examination on October 5th showed: hemoglobin 85 per cent, red cells 4,030,000, white cells 8,000. He had gained sixteen pounds since May 15th, and could go up and down stairs and take short walks. This patient had no mental depression at any time.

CONCLUSIONS

The response to this diet is very rapid and remarkable. The greatest improvement in hemoglobin and red cells takes place in the first weeks of the treatment. It has not been determined as yet how much liver is necessary to maintain a normal condition once this has been established. It cannot be stated that an absolute cure can be effected by this diet. The symptoms resulting from spinal-cord involvement last longer and improve more slowly than the other symptoms. A correct diagnosis must be made, or there will be failure with this diet.

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TRANSACTIONS

A Correction

In the published transactions of the Medical Society of Delaware, as printed in the ATLANTIC MEDICAL JOURNAL for November, 1927, it was stated on page 134 that "Dr. Davis discussed the meetings of the Council on Medical Education and Hospitals." This is an error. The delegate from Delaware was Dr. Henry W. Briggs, of Wilmington, secretary of the Medical Council of the State of Delaware. Dr. Briggs attended the meetings in Chicago, and reported at the Delaware meeting as follows:

The Council on Medical Education and Hospitals, in conjunction with the Federation of State Medical Boards of the United States, held its annual conference at the Palmer House, Chicago, Ill., February 14 to 17, 1927.

This Annual Congress on Medical Education, Medical Licensure, and Hospitals has now been held for the past twenty-one years, and has been the most important factor in bringing about a standardization of these three important branches of the medical profession. It is needless to say they are held under the auspices and direction of the American Medical Association.

The first and second days of the conference were given to papers and discussions relating directly to medical education and hospitals, the remainder of the session being devoted to medical licensure.

Dr. Arthur D. Bevan, chairman of the Council, discussed the need for teaching medical ethics. The profession, in order to retain its enviable reputation, must rigidly observe its ethics. Possibly the most essential asset in life is character, the acceptance of a moral code to guide our actions. After outlining the early history of medical ethics, including the famous oath of Hippocrates, he discussed the "Principles of Medical Ethics" of the American Medical Association, the three principal chapters of which include; (1) the duties of physicians to their patients; (2) the duties of physicians to each other and to the profession at large; (3) duties of the profession at large. He concluded with a short summary of the principles involved. Two of the outstanding violations of medical ethics, in the opinion of Dr. Bevan, were the recommendation of unnecessary operations, and the performing of such operations by inexperienced and incompetent doctors. No operation should be advised by any physician unless that physician, under the same circumstances, would advise a similar operation on himself or a member of his family. Expert medical testimony has often discredited the medical profession. Dr. Bevan concluded by advocation of a compulsory course in medical ethics in every medical college.

Dr. J. N. Jackson, president of the American Medical Association, in discussing this paper, said that character is of the greatest importance, and all action must be based upon what is right and what is wrong. The merchant may display his goods which are for sale, but the patient has no way of judging the competence of a physician until too late. A physician cannot advertise because, to say the least, in doing so he must compare himself with other physicians, and in this way publicly state that his brain is superior.

Dr. Franklin C. McLean, professor of medicine, University of Chicago, spoke on "The University and Medical Education." The student of medicine must be trained in the technic used in inductive science. Students must think logically, and arrive at conclusions by the same methods as are used in chemistry and physics.

Dr. C. F. Martin, dean of McGill University Faculty of Medicine, presented a paper on "The Trend of Medical Education." The secondary schools and colleges should provide better preparation for the study of medi-

cine. The medical curriculum should afford ample opportunity for the development of the student. It is not so much what the student is taught as it is what he learns for himself. The personal zeal of the teacher is more important than equipment.

Dr. Ray Lyman Wilbur, president of Stanford University, spoke on "Altering the Medical Curriculum." Medical knowledge has now become so vast that it is impossible for the student to master any great part of it. There are too many specialties, and the student is expected to know too much detail. He suggested that the training in anatomy, physiology, chemistry, and bacteriology be given in regular university departments, and that the medical course proper be confined very largely to diagnosis and treatment. Instruction should be given in such a way as to increase the powers of observation and the ability to reason. It is important to carry the laboratory into the clinic. The teacher should guide the student, but the student must do the actual work himself.

Dr. E. A. Graham, professor of surgery, Washington University School of Medicine, presented a paper on "The Teaching of Clinical Work to the Undergraduate." This is an age of specialization, as only 35 per cent of medical graduates go into general practice. The public demands specialization, consequently the medical college must supply specialists.

Dr. William J. Mayo, Rochester, Minn., read a paper on "Medical Education for the General Practitioner." Dr. Mayo said he graduated from the University of Michigan in 1883 when he was 21 years of age. Students were then inspired by their professors, and he and his brother took turns in visiting the clinics of the world whenever they thought they could learn anything of value. Conditions have now changed so that, with the exception of a few specialties, America offers as good postgraduate instruction as any country. It is the function of our medical schools to supply general practitioners of medicine and bring hospitals in closer relation with students. The general practitioner must know where to look for information, and should take postgraduate courses frequently. We must train our students to be students after graduation.

Dr. W. S. Leathers, professor of preventative medicine at Vanderbilt University, spoke of "The Place of Preventive Medicine in the Medical School." It is impossible to study disease without considering its prevention. The physician is the family health adviser. Didactic courses in preventive medicine are unsatisfactory, and a student should be shown field work. Every medical school should have a chair of preventive medicine.

Dr. Frank B. Granger, physician-in-chief for physical therapy, Boston City Hospital, presented a paper on "A Hospital Department of Physical Therapy," emphasizing the economic gain in the establishment of a department of physical therapy in any hospital. Patients are returned to work in quicker time. This department should be a reference department only, and no cases should be accepted before being referred from some other department. After treatment, the result must be checked up by the department referring the same.

"The Duty of the Hospital Staff to the Intern" was the subject of a paper by Dr. George E. Follansbee, chief of staff of St. Alexis Hospital, Cleveland, O. Every staff man should take a personal interest in the instruction of resident physicians. Interns should be invited to see private cases, and the entire hospital staff should act as preceptors. Interns should be encouraged to participate in discussions at staff meetings. A good library should be provided.

Dr. N. P. Colwell, secretary of the Council on Medical Education and Hospitals, gave a large amount of data in regard to "The Hospital's Function in Medical Education," showing a marked increase in hospital beds and improved facilities for instruction in our hospitals since 1908.

Dr. L. B. Wilson, director of the Mayo Foundation, gave some of his personal impressions of "Graduate Medical Education in Europe in 1926." Many changes in personnel have been made since before the war, yet many of the old masters are still giving instruction. Everywhere there is keen interest and a good mental attitude. Interest in Holland and Sweden has apparently increased. Medical Italy has been awakened, and is giving splendid postgraduate instruction. Pathology, tropical medicine, internal medicine, and dermatology are especially well presented in Europe at this time. Any one wishing to study in Europe should be properly introduced and appointments made in advance.

All of the above papers were ably discussed by the different members of the Council, among whom were many of the leading medical educators of United States and Canada. The session as a whole was most interesting and instructive.

Editorials

ALBERT ROBIN, M.D.

Christmas was a sad day for the Medical Society of Delaware, for on this day the mortal remains of Dr. Albert Robin were laid to rest. For some time the Doctor had been suffering from a heart affection, although only a very few of his intimate friends knew of it. At ten o'clock on December 22d he was suddenly stricken with a mortal attack, and at midnight passed from this life.

Dr. Robin was born in Ouman, Russia, April 10, 1874, of Nathan and Bertha (Melamed) Robin. He attended the Russian public schools until he came to America. Here he was graduated in 1897 from the University of Pittsburgh School of Medicine, and did postgraduate work at the Massachusetts General Hospital and Johns Hopkins University. From 1900 to 1907, he was professor of pathology, bacteriology, and hygiene in the Temple University School of Medicine. He was medical director of a Delaware tuberculosis sanatorium from 1910 to 1920, and executive secretary of the Delaware State Tuberculosis Commission from 1920 to 1922. He was a consultant at the Delaware State Hospital, and a member of the district draft board during the World War. Dr. Robin was a member of the board of governors of the American College of Physicians, and belonged to the American Society of Bacteriologists, American Public Health Association, National Tuberculosis Association, American Medical Association, Medical Society of Delaware, and the New Castle County Medical Society.

He was much interested in medical journalism, and was a writer of ability. He was an associate editor of the Atlantic Medical Journal, a member of the Publication Committee for Delaware, and made frequent contributions to this department of the Journal. He was a former assistant editor of the *International Medical Magazine* and of the *Philadelphia Medical Journal.*

His interests were not confined to medical subjects alone. He was a former president of the Wilmington Community Center, and was a director of the Home Building and Loan Association. During his life he held a number of city and state medical offices, being state pathologist from 1899 to 1903, and city bacteriologist from 1903 to 1906. He was much interested in the Physicians' and Surgeons' Hospital, was chairman of its medical board, and was most active in the recent campaign for $500,000 for a new institution.

He is survived by his wife, Mrs. Eva Robin, and their children, Dr. Nathaniel Robin, of New York City, Mrs. Gertrude Kamin, of Pittsburgh, Pa., Percival Robin, a medical student at McGill University, Toronto, Canada, and Annette Robin.

Dr. Robin will be greatly missed by his confreres of the New Castle County and Delaware State Medical Societies. He was always alive to the best interests of the profession, and was a forward-looking and active member. Our sympathy is extended to his wife and family, so suddenly bereaved.

SECTIONAL MEETING OF THE AMERICAN COLLEGE OF SURGEONS

The section for Pennsylvania, New Jersey, and Delaware of the American College of Surgeons will convene next month in Wilmington. It is the first time Wilmington will play host to this group, and efforts are being put forth to make the meeting as interesting and instructive as any of the others that have been held in cities of a comparable size. The tentative program calls for clinics at the local hospitals each morning from 8:30 to 10:30 a. m., and clinical addresses at the headquarters each morning at 11:30 a. m. Besides these, there will also be conferences each morning on hospital problems and standardization.

On the first afternoon there will be a hospital meeting, followed by the annual business meeting. These will take place at Longwood, the country estate of Mr. Pierre S. du Pont, if the weather is not too forbidding. Mr. du Pont has a magnificent conservatory capable of accommodating 600 persons, and if the weather permits, this afternoon at Longwood will prove a most attractive feature of the session. If it be not possible to meet at Longwood, the section will assemble at headquarters, the same as for the scientific meeting, which will be held on the second afternoon.

The high point of the program will be the community health meeting, to be held the first evening in the High School Auditorium. Addresses will be made by Dr. Franklin H. Martin, Dr. George W. Crile, Dr. John O. Polak, and others. It is expected that a large portion of the general public will be attracted.

The clinic hours this year are somewhat shorter than is customary. This is for two reasons: first, the session comes just after the Christmas and New Year's holidays, when clinical operative material generally is not very abundant; and second, to allow for a few more clinical addresses by surgeons than usual. This combination will probably prove a welcome variation. The clinical addresses will be made chiefly, if not entirely, by well-known surgeons; it is not the present plan to burden the Wilmington surgeons with the preparation of addresses at this time.

The headquarters will be at the du Pont-Biltmore Hotel, where ample accommodations of the best character will be available for all who can attend. There are approximately 600 surgeons in the College in these three States, of whom it is estimated that at least 200 will be in attendance. The nine Fellows in Delaware will do all in their power to make this meeting the success it is desired to be. The dates are Monday, January 16, and Tuesday, January 17, 1928.

SECURITY THAT IS NOT SECURE

We wonder how many physicians are aware of the fact that health and accident insurance companies may at any time cancel or refuse renewal of their policies. A physician, carrying either health or accident insurance, or both, whose health has become impaired by reason of advancing years or through illness, may find himself, if his condition becomes known, deprived of the protection afforded by this form of insurance.

As an illustration: A physician in the fifties who has led an active professional life for thirty years, free from illness or accident, is refused a renewal of a term policy because of a blood pressure of 170. This fact becomes a matter of record, and the information is given to all other insurance companies. Before long, one health and accident company after another refuses to renew his policies, and he finds himself deprived

of protection at a time when he needs it most. There is no appeal from this, as the insurance companies are within their legal rights to do so. Yet, in this case, the doctor has kept up his health and accident insurance with these concerns during his entire professional life, has never collected any claims, and now he cannot get the protection he needs. Very few doctors are financially able to carry their own health and accident insurance, and in case of illness or serious accident, would sustain an economic loss from which it would be difficult, if not impossible, to recover.

Insurance has become a most important factor in our economic life. Not only does it assure the individual and his family against want, but by releasing the savings which would otherwise have to be made, it increases enormously the purchasing power of the people. In the case of life insurance, the policies become incontestable soon after they are issued, and the insured is secured either for the term of the policy, if it is a term or endowment, or for life. On the other hand, in health and accident insurance the term is for one year only. It, therefore, behooves every physician to bear this in mind, and provide for this contingency.

We see no reason why the health and accident insurance cannot be placed on the same incontestable basis. The additional losses would soon be absorbed by the increased business, and the law of averages would operate here, as it does in the case of group insurance. However, the facts are as they are, and the purpose of penning this editorial is to call the doctor's attention to them.

COUNTY SOCIETY REPORT

NEW CASTLE—DECEMBER

The regular monthly meeting of the Society was called to order by the president, Dr. Charles P. White. The minutes of the previous meeting were read and approved.

Dr. B. A. Thomas, of the University of Pennsylvania, gave a thorough presentation of the subject, "Hematuria and Pyuria." He illustrated his address with lantern slides. Drs. Washburn, B. M. Allen, and Vallett discussed the paper.

Dr. Barsky, acting chairman of the Nominating Committee, in the absence of Dr. Marshall read the names of the following nominees: president, Paul Smith; vice-president, J. Keyser; secretary-treasurer, Wm. Bonner; director, M. A. Tarumianz; and censor, Burton Pearson.

BRICE SEWELL VALLETT, M.D., *Secretary.*

The nursing situation, as with many other phases of life, appears to be passing through a period of unrest and evolution which is unsatisfactory to all concerned. Where, when, and how it will eventually become reasonably stable is as yet beyond the ken of any one.

Medical News

Deaths

MRS. MARY PATRICIA FRIES, wife of Dr. Charles J. V. Fries, Jr., of Philadelphia; December 21.

JOHN C. DEVENNEY, M.D., of Harrisburg; Jefferson Medical College, 1888; aged 70; December 22.

JOHN B. FLOYD, M.D., of Belleville; Jefferson Medical College, 1873; aged 81; July 2, of pulmonary edema.

GEORGE M. KELLY, M.D., of Washington; Jefferson Medical College, 1875; aged 70; October 26, of arteriosclerosis.

JAMES BROOKS, M.D., of Plains; Chicago Medical College, 1877; aged 70; October 18, following a long illness.

ALBERT C. ALTHOUSE, M.D., of Dublin; Jefferson Medical College, 1892; aged 64; November 30, of heart trouble.

JOHN F. HABEN, M.D., of McKeesport; Bellevue Hospital Medical College, New York, 1892; aged 63; November 26.

I. LUTHER BOYER, M.D., of Allentown; Jefferson Medical College, 1891; aged 60; November 22, of aortic regurgitation.

HARRY C. FULLER, M.D., of Latrobe (formerly of Jersey Shore); Jefferson Medical College, 1885; aged 72; recently.

WILLIAM F. PEAIRS, M.D., of Sutersville; College of Physicians and Surgeons, Baltimore, 1892; aged 62; November 20, of apoplexy.

FRANK S. PERSHING, M.D., of Wilkinsburg; Jefferson Medical College, 1879; aged 74; September 22, of hypostatic pneumonia.

MRS. EMMA CROZER KNOWLES, mother of Judge William Gray Knowles and Dr. Frank Crozer Knowles, of Philadelphia; aged 82; December 21.

JEREMIAH V. REEDER, M.D., of Picture Rocks (formerly of Phoenixville); University of Pennsylvania School of Medicine, 1887; aged 68; December 16, of pneumonia.

JAMES L. HEARD, M.D., of North East; University of Michigan Medical School, Ann Arbor, 1894; formerly member of the board of education; aged 53; October 17, of chronic nephritis.

MRS. ANNA LICHTHENTHALER CASTLEBURY, widow of the late Dr. Frank Castlebury and mother of Dr. Galen D. Castlebury, of Williamsport; of pneumonia, at the Williamsport Hospital, November 22.

WILLIAM C. HOLLOPETER, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1877; former professor of pediatrics at the Medico-Chirurgical College; member of the staff of St. Joseph's Hospital; author of several medical works; aged 72; December 16.

CHARLES E. L. KEEN, M.D., of Harrisburg; College of Physicians and Surgeons, Baltimore, Md., 1891; head of children's ward at the Polyclinic Hospital; for many years physician of the Children's Home; member and former president of the school board; aged 60; December 20, of septicemia.

CHARLES B. SMITH, M.D., of Newtown; Jefferson Medical College, 1884; aged 62; December 11, ended his life on the grave of the son he had mourned since he was killed in action in the World War. His son, Lieutenant Morrell Smith, was killed by a shell in the Argonne drive. His body was not found until two years ago, buried in a shell hole. It was shipped to the United States and placed in a grave in the Newtown Cemetery.

Jacob Solis-Cohen, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1860; emeritus professor of laryngology of Jefferson Medical College; professor emeritus at the Polyclinic Hospital, an institution of which he was one of the founders; awarded the Congressional Medal of Honor for service in the Civil War; performed the first successful operation for laryngeal cancer in 1867; occupied the post of senior physician at the Home for Consumptives, Chestnut Hill, from the time of its founding; was identified with practically every medical society and association having any bearing on his profession in the country; writer of monographs, articles, and other contributions to the knowledge of his chosen subject which would fill volumes, exclusive of lectures which he delivered in all parts of this country, and at medical congresses both in America and in Europe; one of the oldest members of the Union League in Philadelphia; aged 89; December 22, after about a week's illness.

Birth

To Dr. and Mrs. Benjamin A. Thomas, of Swarthmore, a son, December 10.

Engagements

Dr. Charles C. Norris and Mrs. William J. Farr, both of Philadelphia.

Miss Helen Muller, daughter of Dr. and Mrs. George P. Muller, of Philadelphia, and Mr. E. Berkley Taylor of the same city.

Marriages

Dr. Francis E. Stewart, of Philadelphia, and Mrs. Susan P. Linnell, of Englewood, N. J., December 26.

Miss Juliet Friedberger, daughter of Dr. and Mrs. A. A. Eshner, of Philadelphia, and Mr. Theodore G. Rich, December 19.

Miscellaneous

Dr. Austin C. Lynn, of Philipsburg, is a patient at the Mayo Clinic, Rochester, Minn.

Dr. George Brose, of Danville, has returned from Philadelphia where he took an eight-weeks' course in neuropsychiatry at the University of Pennsylvania.

Drs. Abraham I. Baron and Charles H. Turner, of Philadelphia, have qualified before the Civil Service Commission as assistant physicians in the Bureau of Hospitals.

Dr. Ralph L. Hill, formerly superintendent of the Allegheny County Home and Hospital for the Insane, Woodville, has been elected superintendent of the Wernersville State Hospital at Wernersville.

Dr. and Mrs. George B. Kunkel, of Harrisburg, who are traveling abroad, were in Ceylon through the Christmas season. They will tour India and southern Europe before returning home late in February or early in March.

Mrs. Henry D. Jump, of Philadelphia, has been appointed a member of the State Crimes Commission by Governor Fisher. This Commission recently created by the Legislature, will make a study of crime laws in Pennsylvania and other states.

The annual dinner by the College of Physicians of Philadelphia, given under the Weir Mitchell Entertainment Fund, was held in Mitchell Hall of the College, December 12, with about 400 fellows in attendance. Dr. Hobart A. Hare was toastmaster, and Owen J. Roberts, Esq., delivered the address of the evening.

Miss Vida Hunt Francis, chairman of the committee seeking to raise $60,000 to endow the department of gynecology in the new building to be erected by the Woman's Medical College, Philadelphia, has pledged $5,000 as a tribute to her mother, Mrs. Anne Iredelle Francis, who died in 1884.

Word has reached the Journal office that a physician in Ohio is desirous of locating in a country town of 300 or so without competition in Pennsylvania. He would prefer to locate in western Pennsylvania. Anyone desiring to get in touch with this physician should communicate with Mr. H. A. Caton, Coshocton, Ohio.

The Dr. William Henry Seibert prize of $500 for the "physician under 45 who has most preëminently distinguished himself in his profession and whose life as a citizen and scholar has been broad, unselfish, and exemplary," was awarded to Dr. Carson Coover at the annual dinner of the Harrisburg Academy of Medicine. The prize is given expressly for use in foreign study.

The forty-first annual dinner of the Association of Ex-Resident and Resident Physicians of the Philadelphia General Hospital was held at the Penn Athletic Club, Philadelphia, on December 6. Dr. Joseph Sailer was elected president, and Dr. Charles K. Mills, who founded the nervous wards of Blockley in 1877, was the guest of honor. Dr. Francis J. Dever, of Bethlehem, acted as toastmaster.

The $45,000 estate of Walter L. Dickis, who died at Mayfair House, Chestnut Hill, November 11, is left in trust, principally for the benefit of a brother and brother-in-law. At their deaths the principal is to be paid in equal shares to the Germantown Hospital and Dispensary, Hahnemann and Samaritan Hospitals, and the Young Men's and Young Women's Christian Associations of Germantown, Philadelphia.

The New $5,000,000 units of the Philadelphia General Hospital were formally dedicated December 7, finally taking away the old stigma from "Blockley." The completion of the new buildings makes the Philadelphia General Hospital the largest institution of its kind in America. Plans are now being prepared for the research laboratories, which are to be made an essential part of the work of the institution.

The following officers were elected at the business meeting of the Philadelphia County Medical Society, held November 16, 1927: president, I. P. Strittmatter; president-elect, Orlando H. Petty; vice-president, John F. Roderer; secretary, Henry G. Munson; treasurer, R. Powers Wilkinson; directors, Walter S. Cornell, John A. McGlinn, Francis F. Borzell; censor, Henry D. Jump; and district censor, Randle C. Rosenberger.

The annual banquet of the Medical Alumni Association of the Medico-Chirurgical College was held in Philadelphia, on November 17, with an attendance of 160. Dr. David W. Levy was elected president. A scholarship fund of nearly $8,500 has been subscribed, the interest of which will be available for sons and daughters of graduates of the Medico-Chirurgical College who enter upon the study of medicine, selection of the candidate to be made by a committee working under the trust fund.

A new course for trained nurses connected with medical hospitals has been put into operation at the Norristown State Hospital for the purpose of giving them an insight into psychiatry and mental diseases. The course is under the personal direction of the superintendent, Dr. S. Metz Miller, and gives promise not only of creating a renewed interest among the nurses, but also will be of great value in preliminary treatment of mental cases which may enter the medical hospitals prior to the process of commitment to an institution for the treatment of mental disease.

A gift of $45,000 from Irenee du Pont, of Wilmington, Del., has been received by the University of Pennsylvania, which will make possible extensive research in cancer at its hospitals and laboratories. The work will be directed by Dr. Ellice McDonald, Canadian specialist in cancer investigation, who is professor at

the University's Graduate School of Medicine. Dr. McDonald's discoveries of specific facts concerning changes in the blood cells of the bodies of cancer victims are said to have been brought to the attention of research workers at the du Pont Experimental Station at Wilmington, leading to the $45,000 gift.

REALIZING THAT THERE is much confusion in the lay mind over the terms "oculist," "optician," "eyesight specialist," and "optimetrist," the Guild of Prescription Opticians of America, in convention at Buffalo, N. Y., resolved to adopt the term "eye physician" in place of "oculist," etc., whenever referring to medical eye men. Physicians will realize the importance of so distinguishing the medical profession and the protection that a clear understanding will give the general public. This Guild consists of opticians who limit their activities to the grinding of lenses from prescriptions, and supply the same to the patient. They do not refract.

DURING THE WEEK OF OCTOBER 10, the Trade Practice Conference of the Motion Picture Industry was called into session by the Federal Trade Commission. It was approved that institutions throughout the country which have been enjoying motion-picture entertainment, either without cost or at a nominal fee covering shipment charges, will continue to receive their film under a unanimously adopted resolution introduced by the distributors at the Trade Practice Conference. Hospitals, homes for the aged, orphan asylums, prisons, and schools for the deaf have profited largely by the service thus rendered. The motion-picture industry as a unit looks upon this service as one it is privileged to perform.

THE DEDICATION OF THE HONOR ROOM and the unveiling of the Memorial Tablet was held in the auditorium of the Philadelphia County Medical Society Building on Wednesday evening, December 7. The invocation was by Chaplain-Major Edward M. Jefferys, O. R. C., Division Chaplain, 79th Division, U. S. Army. Dr. Frederick S. Baldi, president of the Philadelphia County Medcal Society, presided. Addresses were delivered as follows: "The Army," Major-General Merritte W. Ireland, Surgeon-General of the U. S. Army; "The Navy," Rear-Admiral E. R. Stitt (M. C.), U. S. Navy; "The Marine Corps," Major-General John A. Lejeune, U. S. M. C., Commandant U. S. M. C. The tablet was unveiled by Dr. Orlando H. Petty.

A TESTIMONIAL DINNER was given at the Bellevue-Stratford Hotel, Philadelphia, November 30, by professional men in honor of Dr. James M. Anders, who for twenty-five years was a professor in the Medico-Chirurgical College and is now professor in the Graduate School of the University of Pennsylvania. Dr. Anders was presented with a life-sized bronze bust of himself. The presentation speech was made by Dr. John B. Deaver. In addition to other accomplishments, Dr. Anders is the author of "Principles and Practice of Medicine," which passed through fourteen editions; co-author of "Textbook of Medical Diagnosis," and a chevalier of the Legion of Honor of France.

DURING THE MEETING of the American Psychiatric Association this year in Cincinnati there was formed the Central Psychiatric Hospital Association, which is composed of private sanatoria for the care and treatment of nervous and mental diseases. At Minneapolis, in October, permanent officers were elected, Dr. Thomas Ratliff, of Cincinnati, Ohio, being elected president. The purposes of this association are to foster coöperation among private hospitals for nervous and mental diseases for their mutual benefit and to promote and maintain higher standards, increased efficiency of organization, and the advancement of scientific care and treatment of those in their care.

THE ANNUAL MEETING AND CONFERENCE of the Pennsylvania Tuberculosis Society will be held at the Penn-Harris Hotel, Harrisburg, Tuesday and Wednesday, January 24 and 25. In the program emphasis will be placed upon early diagnosis, tuberculosis in childhood, the need for additional sanatorium beds, and general strengthening of the tuberculosis-prevention program. Some of the speakers secured are Dr. Linsly R. Williams, Managing Director of the National Tuberculosis Association; Dr. William G. Turnbull, Deputy Secretary of the State Department of Health; Dr. Arthur C. Morgan, President of the State Medical Society; Drs. Charles J. Hatfield and Eugene L. Opie, of the Henry Phipps Institute; Dr. David R. Lyman, Superintendent of the Gaylord Farm Sanatorium, Wallingford, Conn.; and Dr. J. A. Myers, Associate Professor of Preventive Medicine, University of Minnesota, and Medical Director of the Lymanhurst School for Tuberculous Children, Minneapolis.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

LECTURES ON THE BIOLOGIC ASPECTS OF COLLOID AND PHYSIOLOGIC CHEMISTRY. A series of lectures given at the Mayo Foundation and the Universities of Wisconsin, Minnesota, Iowa, Washington (St. Louis), and the Des Moines Academy of Medicine, Iowa, 1925-1926. 224 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1927. Cloth, $2.50 net.

This book is a compilation of lectures on the biologic aspects of physiologic and colloid chemistry given under the auspices of the Mayo Foundation by Millikan, Fischer, Chambers, Gortner, Burton, and Bovie. The subject matter is of academic interest to research workers and physiologists. A good bibliography is attached.

CULTIVATING THE CHILD'S APPETITE. By Charles A. Aldrich, M.D., Associate Attending Physician, Children's Memorial Hospital, Chicago, Ill. New York: The Macmillan Company. Price, $1.60.

The subject has been very carefully gone over and the author states that various men estimate that from fifty to eighty-five per cent of the children brought to physicians present the appetite problem in a more or less marked degree. All agree the condition is much more common among the well-to-do than the poor. The author does not believe that every child's diet should be necessarily measured by calories, pointing out the fact that children vary greatly in their ability to assimilate nourishment and in their power to utilize it after assimilation. The importance of nervous stability, nature of hunger, nature of appetite, and the mechanism which urges us to eat are discussed in an interesting manner, and the psychologic and physiologic factors influencing appetite are each given a separate chapter.

Chapter IX on "Prevention" has, among other headings, "No Forced Feedings," "Prevention in the First Few Days of Life," "Bottle and Spoon Education," "Prevention of Weaning Difficulties," and many others.

The last chapter on "Treatment of the Established Case" is very interesting and instructive. The book is well worth reading.

UROGRAPHY. By William F. Braasch, B.S., M.D., F.A.C.S., head of the Section on Urology, Mayo Clinic; Professor of Urology, Graduate School of Medicine, University of Minnesota. Second edition, revised and enlarged. Illustrated with 759 roentgenograms. Philadelphia and London: W. B. Saunders Company, 1927. Cloth, $13 net.

It is twelve years since the appearance of the author's monograph on "Pyelography." This second edition is practically a new treatise on what is one of the

(Continued on page xviii.)

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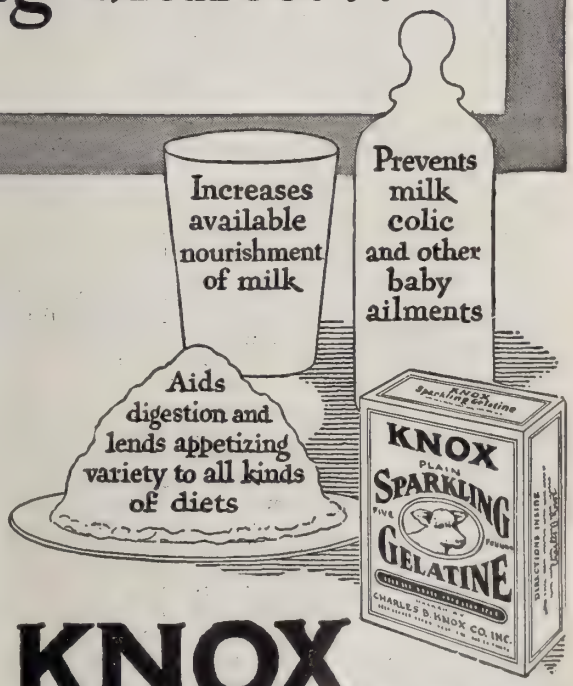

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BOOK REVIEWS

(Continued from page 282.)

urologist's most valuable diagnostic aids. The original material has been entirely rewritten, and to it have been added chapters on cystography and urethrography, resulting in a 50 per cent increase in text and a doubling of the number of illustrations.

The history of the attempts to make the urinary tract opaque to the roentgen ray is most complete, as is evidenced by the bibliography of 137 references. The technic of all procedures is given in detail, and their indications and limitations are discussed at length. The large number of roentgenograms are interpreted with painstaking care and convincing clarity.

To the up-to-date general practitioner, this book will be a revelation in its diagnostic possibilities. To the urologist, it will be an outstanding contribution and an indispensable aid.

NERVE TRACTS OF THE BRAIN AND CORD. By William Keiller, F.R.C.S. (Edinburgh), Professor of Anatomy and Applied Anatomy, University of Texas. Cloth, pp. 456, illustrated. New York: The Macmillan Company, 1927.

In this work, which is the outcome of the author's experience as a teacher, he has briefly and clearly placed before the reader the anatomy and physiology of the nerve tracts of the brain and cord, with their applications to neurology.

Part I covers the structure of the nervous system, the examinations of the brain stem and cord (both adult and fetal), and the nerve tracts as studied by degenerations. Part II is devoted to the anatomy and physiology of the nerve tracts, the greater portion of this section being concerned with the motor and sensory neurons, and the sensory nerves and paths. The special tracts also receive consideration here. Part III is occupied with the application to neurologic conditions of what has preceded, discussing reflexes, interpretation of symptoms, and the lesions of the nervous system in the light of anatomy, physiology, and pathology. In the supplement are grouped the drawings, plates, photographs, and schemata to which reference is made in the text.

The volume is attractively presented and should form a book of reference valuable alike to the general physician and to the neurologist.

APPLIED BIOCHEMISTRY. By Withrow Morse, Ph.D., Professor of Physiologic Chemistry and Toxicology, Jefferson Medical College, Philadelphia. Second edition, revised and reset with the coöperation of Joseph M. Looney, M.D., Assistant Professor of Physiologic Chemistry, Jefferson Medical College. 988 pages with 272 illustrations. Philadelphia and London: W. B. Saunders Company, 1927. Cloth, $7 net.

Many practitioners regard medicine as an art and not as a science. It is clear, however, that if medicine is an art, then it is the art of application of the sciences (physics, chemistry, mechanics, etc.) to the solution of medical problems. The science of biochemistry above all others becomes indispensable to the modern practitioner of medicine for a proper understanding of normal physiology as well as of pathologic function, and it often suggests methods for the relief of symptoms arising from pathologic function, as in diseases of the kidneys, pancreas, stomach, etc.

This book, therefore, fills an urgent need, and promises to be of great help to the general practitioner in diagnosis and treatment. The merits of the book lie in the clearness with which the subject is presented. The reader will greatly enjoy the chapter on blood chemistry, especially the part that deals with the value of estimating the carbon-dioxid combining power of the blood. The book should be heartily welcomed by the modern practitioner.

(Concluded on page xx.)

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BOOK REVIEWS

(Concluded from page xviii.)

A TEXTBOOK OF PATHOLOGY. By Alfred Stengel, M.D., Sc.D., Professor of Medicine at the University of Pennsylvania; Physician to the University Hospital; and Herbert Fox, M.D., Professor of Comparative Pathology, and Director of the Pepper Laboratory of Clinical Medicine, University of Pennsylvania; Pathologist to the Philadelphia Zoölogical Garden. Eighth edition, reset. Philadelphia, Pa.: W. B. Saunders Company, 1927. Cloth $10 net.

In this single volume on the essentials of pathology the authors have the purpose of presenting the subject in a form suitable for students and practitioners. The general subject of pathology now covers such a wide field that its presentation in one volume is very difficult, and, the various subjects must necessarily be considered briefly. This constitutes the chief objection to this volume so far as its usefulness to the general practitioner is concerned. Nevertheless, this objection is in large part compensated for by the very complete references to the literature, and therefore the physician who is earnestly seeking additional knowledge on a pathologic problem will find this work to be a most helpful guide. As a textbook for medical students it is excellent.

The present volume is the eighth edition. There has been considerable revision, but the general arrangement of the preceding editions has been followed. The subject matter is taken up in two general parts: first, general pathology, and second, special pathology. In the first part there are chapters on the etiology of disease; disorders of nutrition and circulation of the blood; retrogressive processes; inflammation; progressive tissue changes; teratology; bacteria and animal parasites; and the transmission of diseases. In part two are taken up diseases of the blood; the lymphatic tissues; the various systems; the glands, bones, joints, muscles, brain, spinal cord, etc; and there are chapters on the eye, ear, and skin. The work as a whole is very comprehensive, and has been brought thoroughly up-to-date. As a reference book for the general practitioner this volume would be very useful, either to refresh the memory or to act as a guide to more extensive reading.

THE FOUNDATIONS OF NUTRITION. By Mary Swartz Rose, Ph.D. New York: The Macmillan Company. Price, $2.75.

The thoroughness with which the author has completed her work on this book is in itself evidence of the value of the facts presented. We feel that in public health, nutrition plays an important part, particularly as it concerns the development of the child, the prevention of infant mortality, and the prevention of tuberculosis and rickets. Undernourishment is today regarded as a serious defect among school children, and may be the basis of many disorders in childhood and adult life. Miss Rose's contribution to the public should, therefore, find itself in the library of all those who are interested in personal and community health. The individual health-seeker may also find valuable material for his guidance.

As with most books on dietetics, however, we find that stress might have been placed on the digestibility of foods, their palatability, and the sensitivity of patients to various kinds of foods. Not all persons can partake of the luscious oyster, although the food value is very high; nor can all children partake of milk and eggs, because they may be sensitive to these food products; nor can Italians, Russians, Austrians, or Americans relish with the same proportion of digestibility foods that are not prepared according to their customs. Not all stomachs are test tubes, there being a wide range of degree of digestibility. There are, however, certain fundamentals in diet which are common to all, and Miss Rose has covered these essential fundamentals.

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Symposium on Diseases of the Lung*

POSTPNEUMONIC INTERLOBAR EMPYEMA

GEORGE W. NORRIS, A.B., M.D.,
AND
DAVID R. BOWEN, M.D.,
PHILADELPHIA, PA.

The point we desire to emphasize is the frequency with which empyema begins as a small localized infective focus between the lobes of the lung.

The terms empyema and pyothorax only too frequently suggest to one's mind a pleural cavity more or less filled with pus. Such a condition, although still unfortunately quite frequent, is, if not constantly, at least in the vast majority of cases, a terminal picture which has occurred long after the empyema should have been recognized, and after the originally walled-off small focus has ruptured into the still uninfected pleural cavity.

More is gradually being learned about the pneumococcus, and thus a clearer conception of the beginning and development of empyema can be established. Gaskell's[1] recent studies on rabbits have shown that different clinical types of pneumonia probably bear a relation to the virulence of the organism. With low virulence the lesion tends to remain a localized central affair. A higher degree of virulence produces lobar involvement, whereas the highest virulence results in septicemia. Another fact worth remembering is that whereas in adults pneumonic consolidation usually begins at the hilus and spreads toward the periphery, the order of involvement is reversed in children. We know of no data regarding the localization of pneumonic empyema and the virulence of the infecting organism. Empyema occurs in from 2 to 5 per cent of all pneumonias, and it is found in about 5 per cent of all pneumonic autopsies. Its frequency is much greater if the infecting organism belongs to type I. It is generally believed that pneumonias which subsequently develop empyema rarely have a clear-cut crisis. This is not improbably due to the fact that the pus collection, if not actually present, is at least in the making at the time the crisis occurs.

It is still uncertain as to whether direct passage through the alveolar wall, or bronchial penetration and subsequent lymphatic extension plays the chief rôle in the spread of infection. Empyema may develop from: (1) direct infection through the pleura, (2) indirectly from bronchopulmonary infection, or (3) from metastatic or hematogenous infection.

Empyema is often difficult to diagnose, and even more difficult to locate. In this the x-ray is of signal aid, and without it localization would often be impossible in the early stages. It is only fair to the clinician, however, to state that occasionally he is right and the roentgenologist wrong, for when associated with a pneumonic lung and when still in the early stages, the x-ray picture may show no characteristic shape and no sharply circumscribed outline.

In our experience, the extent of an interlobar pus collection is best recognized by the following methods:

(1) By constantly being on the alert, especially if fever continues beyond the usual eight to twelve days or if, after this period, the temperature falls only to rise again. Equally suggestive is the continuance of a toxic appearance despite a more or less normal temperature.

(2) Persistence of leukocytosis or of a disproportionately high polynuclear count.

(3) The persistence of abnormal physical signs, especially in the upper or midaxillary regions or along the line of the interlobar fissures.

(4) Normal temperature and return of strength by no means preclude the existence of empyema. One of our patients in whom an interlobar pus collection had been demonstrated, insisting that he felt perfectly well, refused operation and went back to duty on the police force. Two months later he returned after rupture into the bronchus had occurred. In another case, there was a large encysted pus collection which caused long ill health, and was

* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

discovered two years after a preceding pneumonia.

(5) Repeated x-ray studies. These may at first be indecisive, but sooner or later a localized, more or less sharply defined area will become demonstrable.

(6) Deutch[2] has called attention to pain and tenderness in the fourth or fifth anterior intercostal spaces with radiation to the axilla, shoulder, or neck as evidence of a pathologic process in the interlobar fissure. We have thus far been unable to verify this beyond the finding of pain and tenderness which so frequently accompany the pleurisy of pneumonia.

X-Ray Technic

It is necessary that the patient shall be studied in at least two planes, one of which must be horizontal. Otherwise the x-ray diagnosis of hydropneumothorax and of nonencapsulated empyema will too often be missed.

With ambulant patients these postures offer no difficulty, but in postpneumonic conditions the handling must be suited to the patient. We have provided a special[3] carriage upon which rides an oak-framed canvas-top stretcher, a tilting fluoroscope with its footboard so arranged that this stretcher may readily slide from its carriage to the fluoroscope top, and an upright fluoroscope with no frontward-projecting parts to prevent the stretcher from riding close to it.

In practice, this stretcher carriage is placed end to end with the patient's bed, the stretcher is covered with a suitable number of blankets, and while four attendants lift the patient from his bed by the under sheet, a fifth attendant slides the stretcher lengthwise from the carriage to the bed and the patient is lowered onto it. Stretcher and patient are then lifted to the carriage, which is rolled to the fluoroscopic room. Here the only immediate handling of the patient will be to roll him to one side or the other on the stretcher. All other manipulation is accomplished by handling the stretcher. Immediate handling is actually less than that necessary for a reasonable physical examination.

With alternating current available in the ward, good films can usually be made at the bedside; but the handling of the patient to get the necessary two or more planes will not be less than by our method, the equipment is at the very best inadequate, and fluoroscopy, the most important factor, is not possible.*

* Twenty-four lantern slides were shown illustrating the gradual development of empyema in previously pneumonic areas and emphasizing their location in the regions of the interlobar fissures. Some were small and deep-seated, some overlain by the heart shadow.

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POSTOPERATIVE PULMONARY ATELECTASIS

WALTER ESTELL LEE, M.D.
AND
GABRIEL TUCKER, M.D.
PHILADELPHIA, PA.

This postoperative complication has arrested our attention for some years, and our excuse for again presenting it at this time is that a similar interest upon the part of surgeons and internists has not been developed. This year's literature contains more references to the subject and the bibliography is rapidly increasing. The feeling that we have had from the beginning is expressed by Mastics, Spittler, and McNamee[1] "that postoperative atelectasis is a definite entity and presents characteristic clinical and roentgenologic evidence which serves to differentiate it from other postoperative pulmonary complications. Partial atelectasis is the most common type." We would reiterate our former statement that from the postoperative standpoint it is the most important type.

Based on their observations, Mastics *et al.* believe that atelectasis comprises approximately 70 per cent of all postoperative pulmonary complications. The largest group in this year's literature is reported in this paper, 50 in all. Davidson[2] reports 7 cases, Hearn and Clerf 1, Harrington 1, Lee and Tucker 4, Lee and Clerf 2. These reported cases represent but a very small proportion of the incidence of this clinical entity. From Philadelphia alone we have been able to obtain from the roentgenologists 9 cases occurring during this year which have not been published, and one must remember that these are practically all cases of massive collapse, this type being the most dramatic and the easiest to recognize clinically.

Realizing that massive atelectasis forms only a small proportion of the clinical types of the phenomenon, Mastics suggests the recognition of four clinical types:

(1) the fulminant or massive type, which would correspond to the usual massive form; (2) the moderate type; (3) the late or mild type; (4) the transient or evanescent type. We feel that the classification should not be based upon the clinical symptoms, but if possible upon an anatomic basis. The lines of demarcation in this clinical grouping of Mastics seem to us to be too indefinite to be of any practical value.

We have previously suggested a nomenclature which consists of two groups; namely, massive and partial.[3] Churchill and Holmes[4] differentiate a lesion called lobar atelectasis, which they have found very common, both clinically and roentgenologically and on postmortem examination. It would seem to us more consistent with the generally accepted nomenclature to use a strictly anatomic classification; namely, (1) massive atelectasis, (2) lobar atelectasis, (3) lobular atelectasis. That it is possible to group this phenomenon into these three distinct types has been shown over and over again in the literature. Type 1, the massive, is the one usually referred to; type 2, the lobar, is found more frequently in the medical and roentgenologic literature than in the surgical literature; type 3, the lobular, we have described previously under the name of partial atelectasis[5] which exhibits the phenomena of the latent evanescent type of Mastics.

Mastics gives a summary of our present knowledge of the condition which is worthy of quotation: "Pulmonary atelectasis, partial or massive [massive, lobar, and lobular—reviewers], is a common postoperative pulmonary complication which presents a striking and characteristic roentgenologic and clinical picture. No doubt the majority of those postoperative conditions which have been regarded previously as either aspiration or postoperative pneumonia, bronchitis, or bronchial pneumonia, have been cases of atelectasis." In other words, the rarity of this condition, as judged by the number of reported cases, is apparent and not real. Mastics *et al.* have nothing to add to the various theories of the etiology of this condition, but they agree, with the large majority at the present time, to the explanation of Elliott and Dingley[8] that it results from diaphragmatic immobilization associated with bronchial obstruction, the alveolar air being absorbed by the circulating blood. Jackson, Lee, and Tucker, in support of this theory, have removed masses of bronchial secretion obstructing the bronchus supplying the atelectatic pulmonary tissue in three cases, Lee and Clerf in two cases, while Hearn and Clerf[9] report a case of massive collapse in which it was necessary to perform bronchoscopic drainage seven times, and Harrington[10] reports another case successfully treated by this method of drainage. Though there are still a number of theories suggested, there is no general acceptance of any one of them. The majority feel that these two factors, immobilization of the diaphragm and bronchial obstruction, may cause postoperative pulmonary atelectasis. That they are the only causes no one is willing to contend.

The practical significance of this postoperative complication in general surgery is more than a dramatic one. The massive type is easily recognized, and when unilateral the mortality is very low. A mistaken diagnosis of postoperative lobar pneumonia results in an unnecessarily grave prognosis, and the acute severe illness of the individual often warrants this pessimistic clinical diagnosis if the true condition of pulmonary atelectasis is not recognized. But partial atelectasis, both lobar and lobular, is of the utmost importance postoperatively, for in such areas probably are arrested the showers of emboli which Cutler has shown are a constant result of all operative procedures in which the blood vessels are opened. This, to us, has seemed the most important phase of the problem. Our suggestion[6] that this is the explanation of the mechanism of the so-called postoperative pneumonia has not been received with any great enthusiasm. The clinical picture of the so-called cases of postanesthetic pneumonia is so unlike the true lobar and lobular pnuemonia which are seen by the internist and physician that we cannot understand why this old diagnosis is so complacently accepted. When infection is added to these minute multiple infarctions in the collapsed areas, a true bronchopneumonia may be established. This late development, however, we believe is rare compared to the frequency of lobar and lobular collapse combined with minute pulmonary emboli and infarction.

We have had an opportunity, with Dr. T. R. Paul, to follow at postmortem groups of surgical and medical cases, in which lobar and lobular atelectasis was found to be present with such frequency that the pathologist looked upon it as a terminal lesion of no special significance. Thus, a patient dying on the seventh day after an operation for acute appendicitis showed at autopsy a mechanical obstruction of the ileum and loculated pockets of pus in the right renal fossa between the lobes of the liver and the diaphragm, forming a subphrenic abscess. In the thoracic cavity the left lung appeared normal. The right lung, however, was considerably darker than normal. The lower third of the lower lobe was partially atelectatic, being rather clearly demarcated from the air containing pulmonary tissue by a horizontal line. Small patches of atelectasis were present along the entire posterior surface of the lower right lobe and also at the base of the middle lobe. There was no exudate upon either the parietal or visceral pleura, but the vessels of the diaphragmatic surface of the lung were engorged. On section, the atelectatic portion was quite distinct. There was a slight excess of mucus in the bronchial

Fig. 1.—H.P. Germantown Hospital. Atelectasis of middle and lower lobes of the right lung developing two days after appendectomy and drainage. Roentgenogram by Dr. Loughery.

tree of the lower and middle lobes of the right side. The embarrassment of the normal diaphragmatic movements on this side would certainly seem to enter into the problem.

For the purpose of comparison, two nonoperative cases are presented, in both of which immobilization of the right diaphragm had been produced by rapid enlargement of the liver. The first was a man with a rapidly enlarging carcinoma of the head of the pancreas. Autopsy showed metastases to the liver, which was greatly enlarged, and the right dome of the diaphragm was elevated and tense. Here we find the lower lobes of both lungs showing a rather extensive degree of atelectasis which involved the lower half of the lower lobes. The amount of mucus within the bronchi did not in this instance appear to be excessive. In another patient with an enlarged liver, secondary to a primary carcinoma of the esophagus, the right dome of the diaphragm was found to be elevated to the level of the fourth rib. It was tense and taut. A wedge-shaped hemorrhagic infarct was found in the left lung. In the right lung there was complete atelectasis of its entire lower third. This was sharply demarcated from the air-containing tissue by a horizontal line which traversed the lower lobe and the inferior portion of the mid lobe. This area of atelectatic tissue represented in all probability that portion of the lung which was most dependent upon diaphragmatic movement for its proper aëration. The bronchi of the inferior portion of this lung contained a moderate amount of tenacious hemorrhagic mucus.

In most of these instances it will be noted that the atelectasis was not confined to one lobe or to the bronchial tree supplied by any one bronchus. The microscopic picture of these collapsed areas did not differ materially from the usual one of atelectasis. In most of the cases there was marked congestion of the alveolar capillaries, and in one case, associated with the typical picture of bronchitis, definite areas were found which might be interpreted as early lobular pneumonia. We will admit that our evidence of lobular postoperative pulmonary atelectasis is not so convincing as the lobar which has been offered by Churchill and Holmes. But we feel sure that in time we shall be able to present just as clear and convincing proof as in the more obvious type.[7]

Briscoe[12] has suggested that any posture which embarrasses the respiratory movements results in a circulatory change which may be followed by edema and subsequent bronchial and bronchiolar obstruction and ultimate collapse. Bergamini and Sheppard[11] report two sudden deaths during operation which at autopsy showed bilateral massive collapse of the lung. We are not aware of similar reports in literature, and Bergamini and Sheppard have been unable to

Fig. 2.—H.P. Three days after operation, and immediately following bronchoscopic drainage by Dr. Tucker. Note the marked difference in the levels of the right and left diaghragm. Roentgenogram by Dr. Loughery.

Fig. 3.—H.P. Eight days after operation and five days after bronchoscopic drainage. Atelectasis of the middle and lower lobes has returned. Patient refused to expectorate because of pain. With free coughing and expectoration the lung again inflated. Roentgenogram by Dr. Loughery.

find others. The first patient died suddenly while the abdominal wound was being closed following a supravaginal hysterectomy through a suprapubic incision. In the second case also there was sudden death at the close of a splenectomy. In both of these histories we note that respiration suddenly ceased. The histologic findings in the pulmonary tissue were interesting. Examination of microscopic preparations from the collapsed pulmonary lobes revealed a tissue which was difficult to recognize as lung, resembling rather a solid organ. Its appearance was found to be due to complete atelectasis of the pulmonary alveoli, the epithelial cells of which lay closely packed together, having lost entirely their normal alveolar arrangement. The individual cells were swollen, certain of them being obviously hydropic, and the cell outlines rather indistinct. The bronchioles were also collapsed for the most part, many of them being represented merely by circular cuboidal cells. The capillaries, arterioles, and venules, on the other hand, were all uniformly dilated and filled with blood, producing almost an angiomatous appearance in certain areas. This constitutes the most characteristic picture of the histology of the condition. Bergamini and Sheppard discard practically all the other theories, and suggest from this experience that massive collapse is akin to angioneurotic edema of other tissues.

The conclusion of Bergamini and Sheppard that the extreme rapidity of onset of these cases of bilateral atelectasis tends to disprove the obstructive theory of the etiology of the conditions seems to us too sweeping. That obstruction was not the cause of collapse in their two cases seems probable, but the symptomatology and the pathology are so different from the usual unilateral massive lobar or lobular atelectasis that it would seem more reasonable to suggest that another factor must be considered as the cause of the sudden bilateral massive pulmonary atelectasis in these two cases.

Mastics refers to the almost constant occurrence in patients who develop this condition of a marked increased secretion in the respiratory tract. This is often evident during the anesthesia, and they have applied the term "Wet Patients" to this type. This is also the experience of Churchill and Holmes, and certainly has been constant in practically every case which we have seen. There is more or less difficult anesthesia because of increased respiratory secretion, a troublesome hacking cough, and often profuse expectoration following the anesthesia, and a peculiar tenacious sputum. It is very much like the sputum in lobar pneumonia after the crisis, often greenish-yellow in color, and in the sputum cup, because of its viscidity, it will retain its original shape for hours after expectoration. In discussing this with Scrimger, he said that in

Fig. 4.—H.P. Nineteen days after operation and sixteen days after bronchoscopic drainage. The heart has returned to its normal position, and the right and left diaphragm are in their usual relation. Roentgenogram by Dr. Loughery.

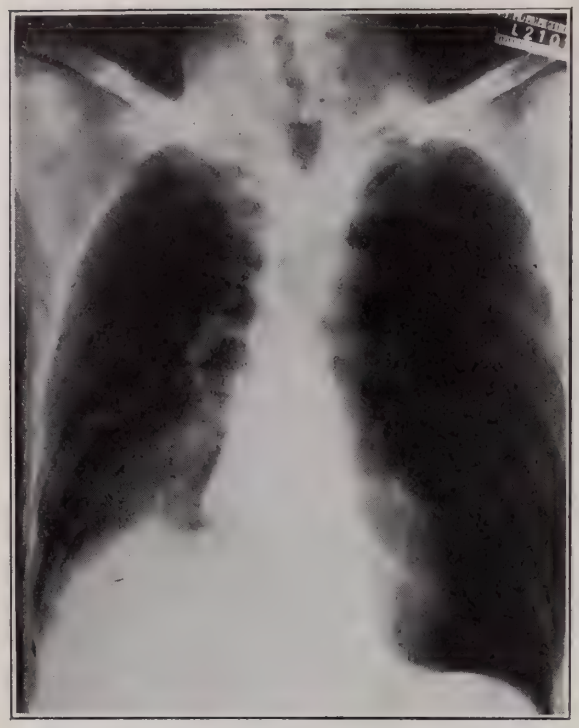

Fig. 5.—A.T., Bryn Mawr Hospital. Atelectasis of the lower right lobe. Five days after appendectomy and drainage of a pelvic abscess. Note the difference in the level of the right and left diaphragm. Roentgenogram by Dr. Pillmore.

his experience this was not a constant characteristic. By means of a bronchoscope, we[13] have seen this tenacious secretion completely occluding the bronchi proximal to the atelectatic tissue, and upon aspirating this obstructing tenacious mucus the lung became reinflated with air. This tough, tenacious bronchial secretion, when collected in a test tube, was so thick and stringy that the tube could be inverted (as shown in figure 8), and in a few minutes after aspiration its consistency was that of a thin jelly. We have felt that this sticky, viscid secretion, completely blocking the bronchi, is a definite etiologic factor in atelectasis.

The mechanism by which the obstruction is produced has been recently suggested to us by the experimental work of Archibald, reported before the Association of Thoracic Surgeons, New York, 1927, upon the dangers of a cough. Following the effort of coughing there is a more or less complete evacuation of the bronchial contents, but immediately following the expiratory effort of coughing there is as great, if not greater, inspiratory effort, when probably as large or a larger volume of air is drawn into the alveoli. The question was raised by Archibald whether, if the bronchial secretions were not entirely expelled by the respiratory effort, they would be drawn further into the bronchial tree by the inspiratory rush of air. By injecting various substances into the bronchi, all of which contained lipiodol, an opaque oil, it was found:

(1) That lipiodol itself, which is about the consistency of mineral oil, was drawn further into and probably reached the terminal alveoli of the lungs after a number of coughs stimulated by mechanical irritation of the pharynx.

(2) When, however, mucus and sputum stained with lipiodol were injected into the bronchi, the expulsive effort practically cleared all this mucus out of the bronchial tree, and therefore it was not drawn further into the bronchi.

This suggests to us an explanation of the piling up of this stream of viscid bronchial secretion into a wave which will finally reach the opposite wall of the bronchus and, because of its viscosity, stick and completely occlude the lumen of the tube. With recurring coughing and marked inspiratory effort this mass of secretion will probably be driven a little farther into the bronchus, and the complete obstruction will be maintained. The mechanism of this seems to us quite obvious. It is conceivable that when the viscosity of the bronchial secretion is not sufficient to insure its complete expulsion by the respiratory cough, nor sufficiently fluid to permit it to be drawn into the terminal bronchioles, it moves slightly back and forth at

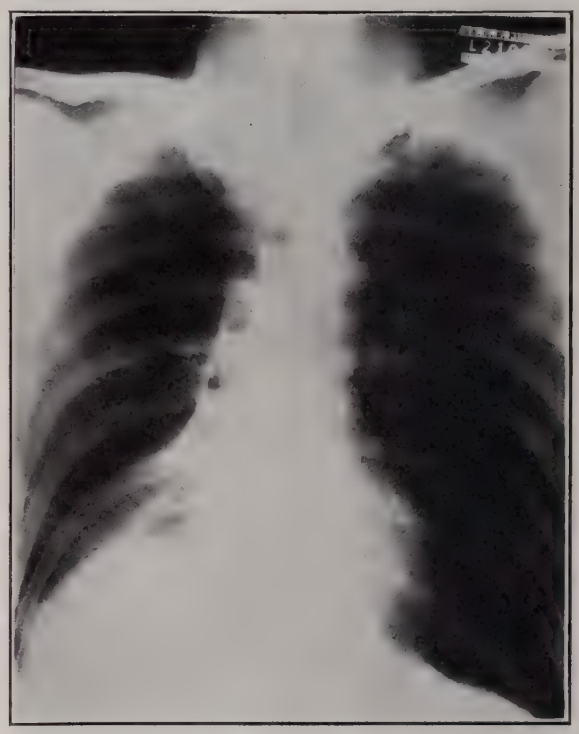

Fig. 6.—A.T. Six days after operation. A productive cough during the preceding twelve hours has drained some of the obstructing bronchial secretion. Note the difference in the level of the right and left diaphragm. Roentgenogram by Dr. Pillmore.

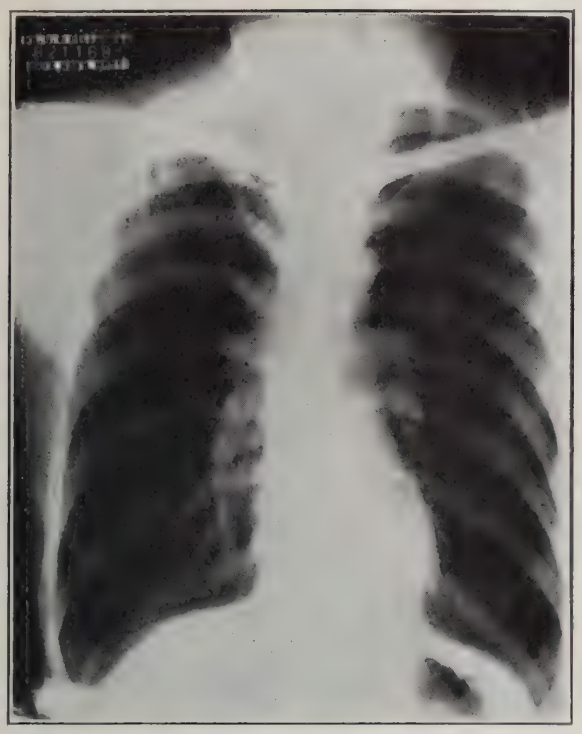

Fig. 7.—A.T. Fourteen days after operation and eight days after bronchoscopic drainage. Note the return of the heart to the median line, and of the right and left diaphragm to the same level. Roentgenogram by Dr. Pillmore.

expiration and inspiration, creating waves on its surface. There is one point, of course, where the expiratory air and the inspiratory air meet and pile up a tidal wave which can be compared to the wave produced by the changing of the tides in a bay. We are now attempting to find a substance of the proper viscosity to reproduce this phenomenon experimentally in animals.

(Experimental Atelectasis. While correcting the proof of this paper, an unusual opportunity was presented to us in a case of post-operative pulmonary atelectasis which followed a right inguinal herniorrhaphy under ether anesthesia, and involved both lobes of the left lung. Ten hours after the onset of the clinical symptoms, and three hours after its demonstration with the x-ray by Dr. Bowen, at the Pennsylvania Hospital, Dr. Clerf drained through the bronchoscope 9 c.c. of the usual characteristic thick, tenacious bronchial secretion from the left main bronchus. A culture from this secretion was found to give almost a pure growth of pneumococcus. This material was kept in its original container, on ice, for twenty-four hours, when it was introduced by Dr. Tucker into the right main bronchus of a dog.

In order to have all of the suspected etiologic factors present in the experiment, the dog was first narcotized with morphin, anesthetized by Dr. Ravdin with ether, and an operative incision made through the upper half of the right rectus muscle into the abdominal cavity. This wound was closed by layer sutures, and was then strapped with broad adhesive plaster which encircled the lower portion of the costal arches, simulating the immobilization which so often happens in the application of our abdominal dressings. The dog was then laid upon his right side and, after cocainizing the pharynx, a bronchoscope was introduced into the right main bronchus, and the bronchial secretion which had been removed from the human case of post-operative massive atelectasis was insufflated into this bronchus. Within fifteen minutes after the withdrawal of the bronchoscope there was marked respiratory distress. In fact, it was so marked that the immediate death of the dog was feared. This distress continued, but eventually the opposite lung seemed to compensate, so that at the end of a half-hour the left half of the chest was definitely larger than the right, while the right seemed immobile and collapsed. Clinically, the respiratory distress of the animal, the immobility of the right side, the exaggerated respiratory movements, and increased size of the left side of the chest corresponded very closely to the phenomena seen in humans. Three hours after the completion of the operation and the insufflation of the bronchial secretion, an x-ray picture was taken which showed complete atelectasis of the three lobes on the right side, with transposition of the heart to the right beyond the spinal column.

We are unaware of any previous successful attempts at experimental production of post-operative pulmonary atelectasis. It has been tried with various synthetic substances, but, so far as

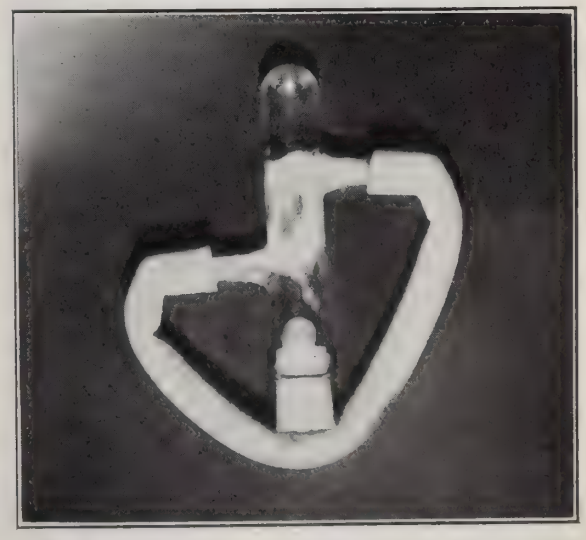

Fig. 8.—A.T. Test tube containing viscid bronchial secretion obtained from the lower lobe of the right lung during bronchoscopic drainage by Dr. Tucker. Photograph by Dr. Pillmore.

we know, this is the first attempt which has been made to employ bronchial secretion from a clinical case in a human being. This would seem to us to open a new field of experimental research with the promise that we may be able to eliminate and properly evaluate the various etiologic factors which have been suggested up to this time.)

SITE OF ELECTION. The part of a lung involved in any of the types, massive, lobar, or lobular, according to frequency, is as follows: (1) the posterior portion of the right lower lobe, (2) the right lower and middle lobes, (3) the left lower lobe, (4) the right upper lobe, (5) the left upper lobe. The anatomic peculiarity of the lungs and the bronchi is the reason offered for the more common occurrence of this condition on the right side.

ONSET. The onset is usually indicated by one or several of the following signs and symptoms, dependent upon the extent of pulmonary tissue involved: marked facial erythema; sensation of tightness or actual pain in the chest; dyspnea or tachypnea; sudden elevation in temperature, pulse, and respiration; cough, with or without expectoration; profuse diaphoresis; cyanosis; displacement of the heart toward the affected side; and asymmetry of the chest. Although the typical signs have been stated so frequently, the condition is rarely recognized. Inspection reveals marked asymmetry of the chest. The affected side appears smaller, as if flat; the interspaces are diminished in size, the ribs seem to converge, and a marked respiratory lag is present. This is in marked contrast to the apparent bulging and exaggerated excursion of the sound side. Osler and McCrae[14] ascribe this to a vicarious emphysema developing on the affected side. The costal margins flare better on the affected side when the lower lobe is the seat of the disorder. This is due to the absence of the antagonistic action of the diaphragm, as described by Hoover.[15] The tracheal displacement toward the affected side is most marked when atelectasis involves the right upper lobe.

HEART. The cardiac impulse is displaced toward the affected side. The superficial area of cardiac dullness may be obscured by the vicarious expansion of the unaffected lung. When the entire lung or either upper lobe is atelectatic, the displacement of the cardiac impulse is obliquely upward, toward the affected side. The cardiac displacement is most marked in cases of right-sided atelectasis.

LUNGS. The physical signs here vary with the area of pulmonary tissue involved and the stage of the process, which in turn is entirely dependent upon the amount of air contained in the atelectatic tissue. To quote Jackson and Lee,[16] "The findings that are common to all cases are the physical signs which indicate a falling into the thoracic spaces, normally occupied by the lungs, of the surrounding structures, the mediastinum and diaphragm." Further analysis of the physical signs divides the cases into two distinct groups. In both, the dullness on percussion is present over the affected side, and may extend as high as the clavicle. This is usually posterior, but it may be anterior. It corresponds to the area of the collapsed lung. The thoracic space unoccupied by the collapsed lung is hyperresonant, and may be tympanitic. In one group the vocal fremitus is diminished or absent, while in the other it is increased. In the first group the breath sounds are diminished, while in the second the breath sounds are increased, are tubular or amphoric in character, and bronchophony and pectoriloquy are also extremely well marked.

The difference in the physical signs is probably dependent upon the patency of the bronchi. Where there is a large proportion of air in them there is an increase in the breath sounds, and they may be loud, tubular or amphoric in character, and bronchophony and pectoriloquy

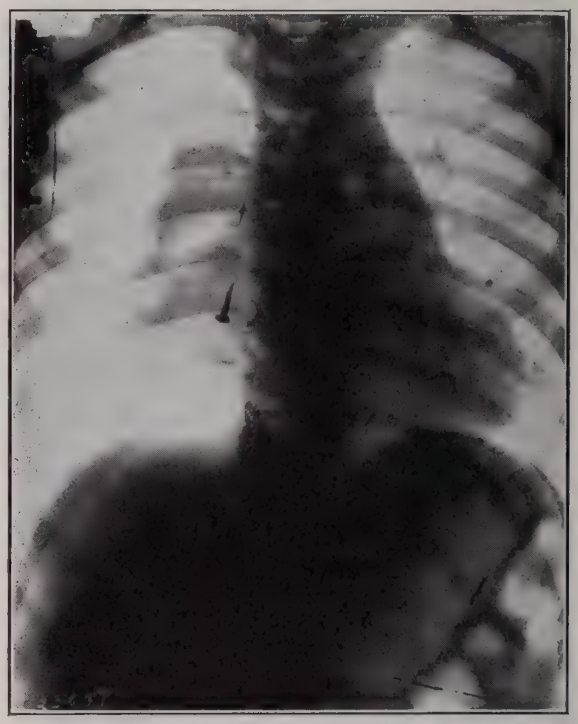

Fig. 9.—Pneumothorax of the right chest with collapse of the entire right lung due to perforation by a tack in the right main bronchus. The tack had been pulled on before the child was admitted to the Bronchoscopic Clinic, and on admission this condition was found. Compare the collapse following pneumothorax with massive atelectasis as seen in figure 1. In this case the tack was removed bronchoscopically after admission and the lung expanded spontaneously, no infection having followed the entrance of air into the pleural cavity.

Fig. 10.—Roentgenogram of a boy aged two years, a patient of Dr. Gabriel Tucker, who was admitted to the Bronchoscopic Clinic forty-eight hours after having aspirated a bean. The film shows complete atelectasis of the entire right lung. The heart is displaced entirely into the right chest, and the deviation of the trachea and bronchi is clearly shown.

may be present. It can readily be seen that the physical signs in the lungs are those commonly attributed to pneumonic consolidation; but, if anything, the signs are even more marked, especially the tubular and amphoric character of the breath sounds. Broadly speaking, the type in which the bronchi are not patent is usually found in the early stages of the condition, while the patent bronchi are found in the later stage of lung expansion.

Mastics and his coworkers call attention to the elevation of temperature and pulse rates which is constantly found in all kinds of post-operative pulmonary atelectasis. Thus the highest temperature in their series is 106.2° F. Of course, in this connection it must be remembered that when associated with other acute conditions the patients suffer an added rise in temperature to this superimposed burden of atelectasis. Mastics offers an explanation of this hyperthermia which is original. It is founded upon a disturbance of equilibrium between the production and the loss of heat. The skin is able to dispose of heat by conduction and radiation and by the evaporation of sweat, depending on the rate of the cutaneous circulation. Through the lung, heat is lost mainly in the vaporization of the water contained in the expired air.[17] With the patient at rest in bed and covered with blankets, the efficiency of the cutaneous thermal regulating mechanism is decreased; hence the burden of heat dissipation is thrown on the lungs. Normally, this transfer of function is assumed readily and is adequate, but in the presence of pulmonary atelectasis, the alveolar surface is diminished and the organism attempts to compensate by increased cutaneous circulation. It is unable, however, to effect an equilibrium between the production and loss of heat without a rise in temperature, even in the presence of a compensatory tachypnea. The pulse rate, of course, is increased in proportion to the elevation of temperature.

Mastics makes definite contributions to the roentgenologic examination. As he says, the picture is characteristic, and if made at the proper time will establish the diagnosis. The roentgenogram must be examined with special reference to the following points: the line of the vertebræ, the relative position of the right and left sides of the diaphragm, and the presence of increased density in the affected lung and of decreased density in the unaffected lung.

Vertebræ. The dorsal vertebræ are curved laterally, with the concavity toward the affected side. We have found this a more or less constant condition.

Ribs. The ribs converge on the affected side, and diverge on the opposite side, so that on one side the chest space is smaller than normal,

Fig. 11.—The same patient forty-eight hours after bronchoscopic removal of the bean. The right lung had entirely expanded, and the heart had returned to its normal position.

while on the other side it is larger than normal.

MEDIASTINUM. The heart and mediastinal structures are displaced toward the atelectatic lung. The trachea is displaced less in atelectasis of the left side than in involvement of the right side. The most marked deviation in the trachea occurs with atelectasis of the right upper lobe.

DIAPHRAGM. The diaphragm on the affected side is elevated above its normal relative position, and the opposite side of the diaphragm is lower than its normal relative position. In those cases in which the diaphragm has been markedly elevated, fluoroscopic observation shows that slight excursion is present, but it is so slight that the diaphragm does not play any real part in the respiratory function.

LUNGS. On the side of the atelectasis there is increased density, localized or general. This may vary in degree from a slight increase which is fairly perceptible, to an increase great enough to obliterate all markings in the lung and chest. Associated with this, a very marked degree of decreased density is found in the opposite lung, the result of the compensatory emphysema. Mastics has attempted to recognize by the roentgen ray the milder or lobular type, and in these cases he says there may be present only an inequality of density in the two lungs, increased on the affected side and decreased on the unaffected side, associated, of course, with one or more of the cardinal signs of displacement of the heart and mediastinum; also elevation of the diaphragm, or curvature of the spine, with convergence of the ribs.

In this connection, the roentgen-ray findings of Churchill and Holmes[18] are of interest. As in cases of massive collapse of the lungs, the shadow of the collapsed lobe obliterates the cardiophrenic angle, its upper border extending as a sharply defined line from the diaphragm to the hilum. The atelectatic lower lobe appears in the roentgenogram as a triangular opacity which obliterates the cardiophrenic angle on the right, but is largely obscured by the shadows of the heart on the left. The apex of the triangle lies at the hilum, and the hypotenuse extends outward and downward either to merge with the shadow of the diaphragm or to meet the chest wall near the costophrenic angle. This is shown in figure 2, page 1,095, of the article by Churchill and Holmes.[18] We reproduce another roentgenogram from *Bulletin No. 9,* Ayer Clinical Laboratory, Pennsylvania Hospital, Philadelphia, October, 1925, figure 5, which shows the condition even more definitely than Churchill's illustration.

Again we make an appeal for surgeons and internists to maintain a more careful study of their postoperative pulmonary complications. There is a very definite need at the present time for these cases to be put on record in order that the etiology, and, therefore, the prevention and treatment of this ever-present postoperative complication may be established on a firm basis.

BRONCHOSCOPIC PHASES OF POSTOPERATIVE PULMONARY ATELECTASIS*

Many interesting and ingenious theories have been advanced regarding the etiology and mechanism of pulmonary collapse. So far, however, clinical and experimental evidence have definitely proved that collapse of the lung may occur in two ways: First, by pressure from without on the visceral pleural surface, as in pneumothorax. The bronchi are collapsed as well as the alveolar portions of the lung, and there is only slight displacement of the mediastinal structures, unless the pressure in the pleural cavity is excessive (see figure 9). Second, collapse may also occur from bronchial obstruction (obstructive atelectasis), where the tributary bronchus is completely blocked and air is absorbed from the alveolar portion of the lung. The visceral pleura maintains its position in contact with the pleura of the chest wall and diaphragm. The result is that the atmospheric pressure maintains the bronchial lumen and causes elevation of the diaphragm and displacement of the mediastinal structures toward the involved area of the atelectasis. This second type of collapse (obstructive atelectasis) we have found on bronchoscopic examination to occur in postoperative pulmonary atelectasis (see figure 1).

That we have bronchoscopic observations on postoperative pulmonary atelectasis is through the courtesy of Dr. Lee, who gave us the opportunity for the first bronchoscopic examination in postoperative massive collapse of the lung. Through his coöperation, it has been possible to examine bronchoscopically four cases of postoperative pulmonary atelectasis. Three of the cases were of the type described by Dr. Lee as "massive," two or more lobes of the lung being involved. The other case, at the time of the examination, was of the lobar type, showing involvement of one lobe only. In each of these cases examined bronchoscopically, there was found complete obstruction by thick, tenacious secretion of the larger bronchi supplying the atelectatic area of lung (see figure 8).

Dr. Chevalier Jackson[19] has compared the mechanism of atelectasis in this condition to the atelectasis produced by a foreign body. The secretions cause a "stop-valve" obstruction of

* Observations by Dr. Tucker.

the bronchus similar to that produced by a foreign body, and while present prevent the expansion of the atelectatic lung. In foreign-body atelectasis the bronchoscopic removal of the foreign body allows the atelectatic lung to expand. If the sojourn has been short, complete expansion will occur in from 24 to 48 hours (see figures 10 and 11). The time, however, is variable, and a longer period may be required. The same result is seen in postoperative atelectasis following the bronchoscopic removal of the obstructing secretion. In this condition, however, the obstruction fills the bronchi distal to the point of complete obstruction in the larger bronchi like a cast of that portion of the tracheobronchial tree (see figure 12).

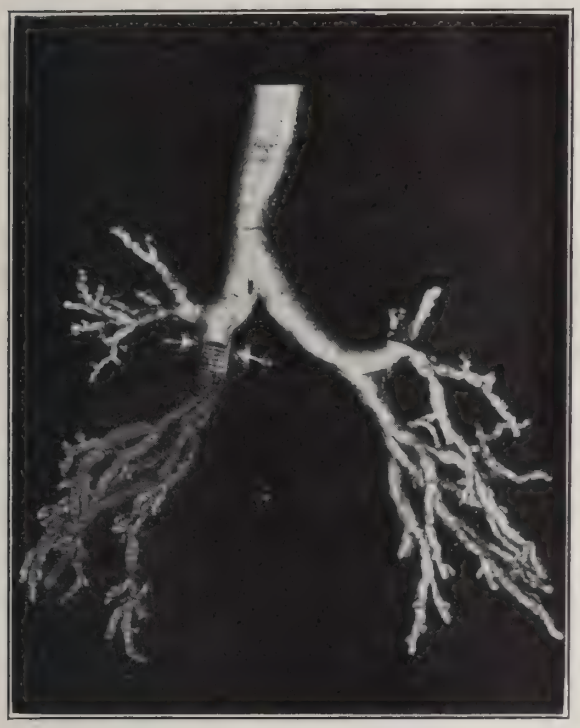

Fig. 12.—Tracheobronchial tree. The shaded area of the right lower and middle lobes indicates the extent to which the larger bronchi were found on bronchoscopic examination to be filled with thick, tenacious secretion. Roentgen-ray examination at this time showed complete atelectasis of the lower and middle lobes.

In the bronchoscopic removal of the secretions by aspiration, it is not possible to aspirate all of the smaller bronchi, and atelectasis usually recurs. Probably one of the factors in its recurrence is the filling of the larger bronchi by this secretion from the small bronchi. Another probable factor, as Dr. Jackson has suggested, is that "a local derangement of the secretory mechanism may produce secretion of such character and in such quantities that the impaired cough mechanism which exists in postoperative atelectasis cannot keep the bronchi clear." Repeated bronchoscopic aspiration will result in prompt recovery of the lung after the cough mechanism has become effective. Dr. Lee has discussed the theories that have been advanced regarding the etiology of postoperative atelectasis which may have a bearing on its mechanism.

The number of cases bronchoscoped is not sufficient to justify definite conclusions, and in order that reliable data may be obtained it has been suggested that complete and systematic records of all bronchoscopic examinations be made in these cases: particularly that the time of examination with reference to the onset of collapse should be noted, and that the extent of the atelectasis should be determined by careful physical examination and roentgen-ray studies before and after each bronchoscopy, and these findings made a part of the record.

Bronchoscopy should be done, or at least the advisability of bronchoscopic aspiration should be considered in all cases of so-called "massive collapse of the lung." The question as to what patients should be bronchoscoped is one for the surgeon, who has knowledge of the operative conditions, to decide. The skilled bronchoscopist can carry out the procedure with very little discomfort or disturbance to the patient. Cough can be controlled by morphin narcosis, and in patients over twelve years of age cocain can be applied locally to abolish reflexes. Dr. Lee has observed that the patients uniformly experience marked relief following the bronchoscopic aspiration. General anesthesia is not necessary, and of course, is contraindicated.

Regardless of theories as to the etiology and mechanism of collapse, I think every one will admit that the lung cannot expand after atelectasis has occurred while the bronchus is completely blocked. The secretion can be removed by bronchoscopy, and the larger bronchi cleared for the air to enter.

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CHANGES IN THE SERUM SALT CONCENTRATION IN THE BLOOD DURING LOBAR PNEUMONIA, AND THEIR RELATION TO THERAPY

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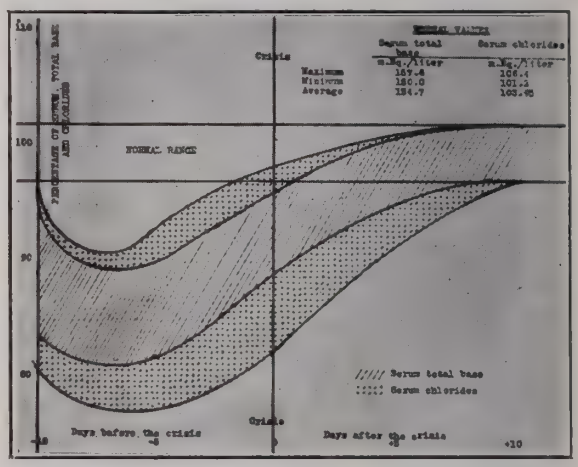
The following facts have been established in regard to the inorganic metabolism in pneumonia. Hutchinson (1898) pointed out that while a decrease in urinary chlorids existed in other febrile conditions, the decrease was not so constant as in pneumonia. Peabody (1913) showed that the decrease in urinary chlorid elimination was associated with a decreased chlorid concentration in the blood. His results also indicated a lowering of the calcium and magnesium concentration during the stage of active infection. Maver and Schwartz (1916) found that the blood chlorid concentration was decreased throughout the febrile state, but was increased immediately after the crisis. Thus, during the stage of active infection there is a retention of chlorids in the body, as manifested by a decreased chlorid elimination, whereas, in the blood at this time there is also a decreased chlorid concentration.

During the past two years the blood serum from patients with typical lobar pneumonia has been studied. These studies were designed to follow the course of the electrolytes in general and the nonelectrolytes throughout the infection. The blood was withdrawn by vein puncture, collected under oil, defibrinated, centrifuged, and the blood serum removed under oil. Whenever possible the bleedings were made at intervals of two or three days on each patient before and after the crisis. Total base, chlorid, CO_2 content, dry weight, blood-urea nitrogen, protein and nonprotein nitrogen, sugar, and creatinin analyses, and freezing point, conductivity, and refractometric measurements were made. Among the findings brought out by this study (1926) was that the chlorid concentration was not alone decreased during the active infection, but that the total base was also decreased.

The general trend can best be shown by the accompanying graph. The day of the disease when the blood was withdrawn has been plotted as abscissa, and the percentage of the normal total base and chlorid as ordinate. The crisis is taken as the zero day, the time of the active infection is designated as minus days, and the time after the crisis as plus days. It will thus be seen that both the total base and chlorid concentration in the serum is decreased during the active infection, and tends to become normal after the crisis—the chlorids more slowly than the total electrolytes.

Although no correlation between the severity of the pneumonia and the percentage decrease in serum base concentration was apparent, it was thought worth while to follow during the precritical period the total serum electrolytes and the clinical course of lobar pneumonia in patients receiving excessive quantities of sodium chlorid.

Sodium chlorid was first used as a therapeutic agent in lobar pneumonia between 1890 and 1900 by F. B. Henry. He gave saline hypodermoclyses in amounts varying from 500 to 1,000 c.c. to twelve patients with lobar pneumonia, ten of whom recovered. The object, he claimed, was "to dilute the blood and prevent antemortem coagulation." Favorable reports on this treatment have appeared in the literature.



Prigge (1922) injected from 100 to 150 c.c. of a twenty-five-per-cent sodium-chlorid solution intravenously into normal individuals and into patients with lobar pneumonia. He found that the pneumonia cases differed from the normal in that the chlorid was not excreted for a much longer time. The blood chlorid concentration, however, followed the same course as in the normal individual, and was decreased the day following injection.

Haden in 1925 suggested that in lobar pneumonia sodium chlorid should be administered orally, and that such treatment was indicated in all cases in which there was a decreased chlorid excretion without apparent renal damage.

In six of our lobar-pneumonia patients, ten to fifteen grams of sodium chlorid were given every twenty-four hours from the time of admission until after the crisis. The salt was dissolved in milk, and very little difficulty was experienced in the administration. No signifi-

cant difference in the total base and base bound by chlorid was found between the group receiving salt and those cases not receiving salt. The analyses of the total base and chlorid fell within the areas represented on the graph. Clinically, no particular therapeutic value was noted from the sodium-chlorid administration. The time of appearance of the crisis was not altered, and the severity of the infection apparently was not lessened.

To summarize: The total electrolyte concentration in the blood serum of lobar-pneumonia patients is decreased during the active infection and tends to become normal after the crisis, the chlorids reaching the normal level more slowly than the total electrolytes. This lowered concentration of salts in the blood serum at the very time when there is a retention of chlorid, as indicated by the diminished salt excretion through the kidneys, points out a disturbance in the salt equilibrium between the tissue and the blood serum in pneumonia which we are continuing to study, and which is certainly of importance in the pathologic physiology of pneumonia.

The oral administration of excessive quantities of sodium chlorid in six cases of lobar pneumonia did not alter the course of the electrolyte distribution in this infection.

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ABSTRACT OF DISCUSSION

Of Symposium on Diseases of the Lung

J. Slater Crawford, M.D. (Pittsburgh, Pa.): There is, in my experience, but one definite method of diagnosing empyema: by experimental puncture with a needle. This method, I believe, is dependable in all cases, and not harmful. Will Dr. Norris please state his objection to the use of the needle.

Nearly all cases of empyema start as lung abscess, a gathering of pus between the lobes. It was formerly my belief that empyema occurred as a result of diapedesis of organisms through the visceral pleura. Evidently that idea is incorrect, although diapedesis might, and probably does occur in some cases.

These abscesses may remain long encapsulated, so that it is necessary to be mindful of the great frequency of abscess formation with any form of pneumonitis. The abscess may break through the pleura to produce empyema, which of course is fortunate, or it may become encapsulated, producing the classic lung abscess—which depends much upon the proximity of the process to the pleura.

William Egbert Robertson, M.D. (Philadelphia, Pa.): Recognition of empyema depends, first, upon the realization that a case of pneumonia is a potential case of empyema, and second upon the temperature. These cases are frequently overlooked, particularly in private practice, because of the failure to take repeated temperature readings. I believe, with Dr. Crawford, that the use of the needle offers the chief means of diagnosis, although, when empyema is suspected, the diagnosis may be arrived at without it.

In a type of case which has not yet been touched upon the empyema occurs between the base of the lung and the diaphragm. In one such case, at operation the pleura proved to be entirely free. There was no evidence of inflammation or involvement of any kind, and if pus had not been previously obtained by means of a deep needle puncture, operation would not have been performed, as the x-ray plate was entirely negative.

In diagnosis from the physical standpoint one is apt to use too firm a stroke in percussion. If the physical principles underlying percussion are that the sound is proportional to the square of the distance, deep percussion will produce a widely distributed note, and rather often one that is diffuse.

John W. Boyce, M.D. (Pittsburgh, Pa.): How is the fact to be accounted for that the present idea of the localization of empyema is so different, after fifteen or twenty years of x-ray examination, from the idea which obtained after a hundred years of purely physical examination? A few years ago we did not know of interlobar empyema. Why did we not learn of this until within the past fifteen years?

Has postoperative atelectasis of the lung, several cases of which are now recognized by every surgeon yearly, developed only recently, or has it been overlooked these many years in spite of able physical diagnosis?

George E. Holtzapple, M.D. (York, Pa.): Many cases of pneumonia develop into empyema, but how is it to be explained that after the crisis, when the temperature has been normal for a day or two or even longer, the patient complains of slight pain, the temperature rises, and a typical case of empyema develops? Why does the temperature remain practically normal during this interlude if interlobar empyema exists? Why does not the process of toxemia go on from that location just as well as when the whole pleural cavity is involved?

Dr. Norris (in closing): Owing to the time at our disposal and the broad subject, we could not devote attention to every method of diagnosis. The fact that the exploratory method was not mentioned does not indicate any objection to its use. We frequently employ the needle in cases that require this procedure.

The point we tried to bring out was the localization of the empyema in the early stages. In many chests no amount of needling would produce pus. In one case we were convinced that pus was there, but on operation none was found. In a similar instance this was due to the fact that all the pus had been removed by the needle, and no more was found. In another case no pus was found by the surgeon, but the abscess ruptured spontaneously a few days later through the wound. This will often happen if the wound is not closed tightly and gauze is inserted.

No one can afford to be dogmatic regarding the

origin of empyema, but it has been my impression that all empyemas started as the result of diapedesis. We cannot be sure, however, that the infection does not come through the blood stream.

Dr. Crawford seems to regard empyema and pulmonary abscess as identical conditions. It has always been my understanding that the lung abscess is a condition in which there is a breaking down of lung tissue and in which elastic tissue is found in the sputum. In empyema this does not occur.

In our experience, interlobar empyema occurs a little more frequently in the upper fissures than in the lower portions, but unquestionably there are instances in which the pus first accumulates between the lung and the diaphragm and spreads from there. These cases are recognized much earlier now than formerly. X-ray study is more frequently done, and is much better in quality.

I fear I cannot answer Dr. Holtzapple's question, although any one could hazard a guess. In many instances the temperature does not come down to normal, but in other cases it has been known to remain normal for two years. This may be due to the fact that the adhesions are so dense that none of the infection gains access to the blood stream, and no symptoms occur such as a mild septicemia would produce.

MASTOIDITIS IN INFANTS*

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In the last few years quite a number of articles have been written about otitis media and mastoiditis in infants. About four years ago, after listening to an article by Dean on this same subject, I was firmly convinced that I was passing over a large number of these cases. Subsequent experience proved this beyond any doubt. The material in this article deals with mastoid infection in infants from a few weeks old up to two years.

There are two distinct types of mastoiditis in infants: One gives rise to the ordinary acute, red, bulging drum with discharge, developing either spontaneously or following a paracentesis, with severe pain, a moderate degree of fever, and a slight amount of toxemia, and ending in many cases with a subperiosteal abscess—in other words, the type of mastoid to which we are all accustomed. In the other type, few objective symptoms are present, there being total absence of subperiosteal swelling, and in most cases absence of the red bulging drum or acute suppurative otitis media, but there are marked constitutional symptoms. This second type is the one which will be emphasized.

The constitutional symptoms described by Jeans and recently quoted by Alden have been observed in most of our cases—"marked and rapid loss of weight, diarrhea, dehydration, and the appearance of intoxication. The intoxication is characterized by drowsiness or stupor and pallor with a grayish hue; it may appear simultaneously with fever, or follow it in a few hours. The temperature curve is inconstant. When fever existed previously, a secondary increase may occur. Diarrhea usually parallels and coincides with the dehydration and weight loss. Sometimes the onset of diarrhea is slightly delayed, and in a few otherwise typical cases diarrhea has been absent. Usually there are from eight to twenty mucus-containing, foul-smelling stools daily. The dehydration is reflected in the weight loss and the loss of skin elasticity; it is sometimes of such marked degree as to cause the appearance of extreme emaciation. Prior to the establishment of drainage from the site of the infection, parenterally administered fluid is often reflected in an increase of the diarrhea. The leukocyte count has varied from 13,000 to 30,000 or more. Vomiting may occur throughout the course of illness with a varying degree of severity. Refusal of food is a fairly constant feature. Marked degrees of acidosis, as measured by the carbon-dioxid combining power of the plasma, have been noted. The urine may at times contain casts and a slight amount of albumin; glucose has not been found."

The otologic findings in these cases are vague and extremely interesting, and one must have access to a large pediatric service in order to become a keen observer in these atypical cases. Before taking up the ear findings, a few general facts should be mentioned.

In private practice and in the well-nourished infant fewer cases are seen, while in the neglected or improperly nursed infants many cases are encountered. This probably can be explained by the fact that in the foundling asylums and in many of the hospitals, on account of the inadequate help, the infants are fed in a dorsal position, the bottle held by a holder attached to the side of the crib. In many instances, regurgitation of the milk takes place to a greater or less extent, and it can readily be seen how the curds would become lodged in the nasopharynx or posterior nares, and during the act of crying, straining, or coughing they would be forced up the short, wide-open eustachian tube. The eustachian tube in infants is relatively shorter and more horizontal and its lumen is larger than in an adult. How patulous is the tube can easily be demonstrated in this manner: after opening the mastoid antral cell of an infant, take an ordinary metal ear syringe, irrigate through and through,

*Read before the Section on Eye, Ear, Nose, and Throat Diseases of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

as is usually done when flushing an adult mastoid, and you will be surprised to find the volume of the solution that pours out of the nose, a certain per cent going into the mouth and in some cases into the larynx. To guard against pulmonary complications we have abandoned these through-and-through irrigations in infants.

Examination of a section of an ear at birth shows that the middle ear is filled with embryonic material which may persist for some time. We have found this embryonic material not only in the middle ear but in the mastoid in quite a number of cases, and it is probable that once infection reaches the middle ear this material acts as a wonderful culture medium. At the time of operation, it is not an uncommon sight to see small petechial abscesses scattered throughout this embryonic débris.

For success in the diagnosis and handling of these cases, coöperation is essential. The head nurse in the children's ward must be instructed to report to the otologist prolonged or incessant crying, rocking of the head from side to side, holding of the hand to the ear, pulling at the ear, convulsive movements, drawing back or slight rigidity of the neck, oscillation of the eyes, etc. Of course all these cases belong primarily to the pediatrician, and without his coöperation and guiding hand in excluding other causes the otologist is helpless. The pediatrician usually says: "We have gone over this child very carefully and cannot find anything to account for his condition. Is there any trouble in the ears or sinuses?" No case is ever operated upon without his consent. A special effort should be made to secure permission for a postmortem examination of all infants that die from any cause. Physicians fortunate enough to be connected with hospitals that make this more or less of a routine are often surprised and many times chagrined to have the pathologist report back that nothing was found of any importance except pus or granulations in both mastoids.

Otologic Findings

The examination of an infant's eardrum is unsatisfactory if the examiner does not have a light of real sharp focus. Sometimes there is sagging of the superior canal wall which makes it imperative to include in the armamentarium an unusually small ear speculum. The drum picture is very different from the one encountered in an older child. Three distinct types of drums are seen: (1) a thick, dense, white or gray-looking drum with no bulging, and slight or entire absence of light reflex; (2) a thin, crinkly, lusterless drum, with no bulging, and absence of light reflex; (3) a normal-looking drum with light reflex, but with varying degrees of bulging in the extreme superior-posterior part. This is the most common type.

Any of the above drum pictures demands an immediate myringotomy. After paracentesis one of three things may be expected: immediate discharge of pus or bloody serum; no discharge until three to eight hours have elapsed; no discharge at any time (this does not necessarily mean that the middle ear or mastoid is free from infection).

Myringotomy alone, by relieving pressure in the middle ear and establishing drainage of purulent secretion through the external canal, may relieve the gastro-intestinal symptoms; but if, on the other hand, the infant does not show improvement after myringotomy, and the pediatrician reports all other findings negative, in a large majority of instances the mastoid must be opened.

The delay or rapidity with which a mastoid must be opened depends upon the two following conditions: (1) Presence of any of the above drum pictures, myringotomy having previously been done, rapid progress of the general symptoms, a temperature of 103° to 104°, increase in the number of stools, increase in dehydration and emaciation, in fact, increase in all general symptoms. When the pediatrician reports everything negative which might account for the clinical picture except the ears, experience has proved that the mastoid must be operated upon. This is the fulminating type of the disease. While a high temperature is usually seen in this form, some cases are just as rapidly progressive with a slight or normal temperature. (2) The slowly progressive type, with the same drum picture, myringotomy having been performed with no relief of the gastro-intestinal symptoms; the temperature on the line most of the time, but with an occasional flare-up to 100° or 101°, falling to normal in a day or two; gradual increase in character and number of the stools; and gradual increase in the dehydration and emaciation. Again, when the pediatrician reports all findings negative, and in spite of a change in the feeding formula there is no improvement, the mastoid should be opened, but haste is not so essential as in the first form.

Type of Operations

The usual operation on infants is to make the ordinary mastoid incision, remove the outer plate, curet the pus and granulations from the antral mastoid cell, and pack. In my opinion, this is not sufficient, for in most of our cases we have

found small adjacent cells filled with pus. These cells are located in front toward the zygoma, and extend posteriorly along the tegmen. To expose them it is necessary to remove the rather thick superior wall of the antral cell. Even in infants a few months old we have found numerous tegmen cells. Possibly the reason these cells are overlooked by most operators is because of the fact that after the antral cell is curetted free from all diseased material, the superior bony wall appears smooth, hard, and healthy. By removing these adjacent cells, an earlier improvement is noticed in the general symptoms, also a much shorter filling-in time of the mastoid wound, and fewer recurrences. In older children and adults the mastoid operation is not considered complete unless these cells are removed, but a mere antrotomy has been ordinarily deemed sufficient in infants. We have been performing the more extensive operations during only the past year, and our results are much more satisfactory.

Anesthesia

Light ether anesthesia has been used in all our cases, but in the past few months we have tried ethylene anesthesia, the staff anesthetist reporting less reaction and less shock than with ether anesthesia. Although these extremely emaciated cases are poor operative risks, we have not had an anesthesia death in a series of 114 cases from 1924 until the present time.

Observations and Conclusions

1. There are infants who suffer from a gastro-intestinal syndrome, the etiology of which is found in the mastoid.

2. All cases are admitted on the service of the pediatrician, and the otologist acts merely as consultant.

3. All cases run a high leukocyte count, varying from 12,000 to 35,000 or more.

4. Hemolytic and encapsulated streptococci were found in the more virulent cases. The staphylococcus pyogenes aureus and pneumococcus type IV were found in a larger percentage of our cases.

5. Continual rocking of the head from side to side, striking the head on the side, holding the hands to the ear, continual crying, etc., are not uncommon signs in these cases, and with the ear findings may be of material help in arriving at a diagnosis.

6. Drum pictures are vague, and can easily be overlooked.

7. A mere antrotomy is not sufficient; all tegmen and zygomatic cells must be drained.

8. The mortality can be kept much lower if a routine examination is made of all ears and if the otologist is able to make a reasonably early diagnosis of these mastoid infections.

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ABSTRACT OF DISCUSSION

James K. Everhart, M.D. (Pittsburgh, Pa.): Dr. McCready has called attention to a condition about which little was known until comparatively recently, and which has been entirely overlooked in many cases. It has long been believed that mastoid involvement is invariably accompanied by swelling and redness over the mastoid area. Abundant evidence, however, has been offered in the last few years by Dean, Marriott, Renaud, and others that mastoiditis, usually without the classic symptoms, is frequently found in the athreptic infant.

Athrepsia may be defined as a chronic state of undernutrition in which the infant fails to gain in weight properly. Such cases have so long been looked upon as due solely to disturbed nutrition that doubtless a contributory or perhaps the causative factor has been overlooked in many instances. In children dying of athrepsia, practically no gastro-intestinal pathology has been found. In some instances a few superficial gastric or intestinal ulcers have been seen, but nothing commensurate with the general condition of the child. Yet practically all the symptoms present had been referable to the gastro-intestinal tract—chiefly vomiting and diarrhea. Unquestionably many times we have been misled. While it cannot be said that every athreptic or dehydrated child is suffering from ear or mastoid infection, certainly autopsy has revealed insufficient gastro-intestinal lesions to account for death.

In 1920, Renaud reported 70 autopsies on children dying of severe gastro-intestinal disturbances. In every one he found mastoid or middle-ear involvement or both, and in many of them severe bone necrosis. In 1925, Lyman and Alden reported a series of 70 consecutive autopsies on infants. In 30 of these, ear involvement had been diagnosed before death, but in the remaining 40 no such diagnosis had been made. In every one of the 70, pus was found in the middle ear. Marriott has reported many instances in which this type of child has had infection of the ear, mastoid, sinuses, or all three. These reports indicate the frequent existence of a condition long overlooked.

The predominance of nervous and gastro-intestinal symptoms and the almost complete absence of ear symptoms are misleading. The history rarely reveals anything directing attention to the ear, and the drum shows little or no bulging. The comparatively shorter, more horizontal tube of the infant, with its larger lumen, permits the tympanic cavity to be filled with pus which drains into the nasopharynx. The external evidence of mastoiditis is so slight in these children as to mislead unless the diagnostician has had previous experience with the condition.

When to operate is difficult to decide, and the responsibility should rest on the otologist and pediatrician together. At present it is difficult to formulate definite indications for operation. Perhaps, as Sewell says, "we shall have to develop a certain clinical sense which enables us to form a picture of what is going on with so little actual evidence."

Thomas B. McCollough, M.D. (Pittsburgh, Pa.): In performing myringotomy on these children, we make an incision as for an ordinary paracentesis. If secretion is not obtained at once, a counter incision is made

upward and backward over the posterior superior canal wall. Oftentimes purulent secretion has been obtained from an ear from which there was no secretion at the first paracentesis in the lower portion of the drum.

The question of the proper surgical treatment in these cases is not definitely decided at this time, but it is my belief that when paracentesis has been performed with no improvement in clinical symptoms for one or two days afterwards, the patient being markedly toxic, with diarrhea and dehydration, a mastoid operation should be done. The following cases will serve to illustrate this point:

A child was brought to St. Francis Hospital with a history of symptoms of cholera infantum—dehydration, loss of weight, frequent stools, toxemia, and a temperature of 101° to 103°. A paracentesis had been done outside the hospital seven days before I saw the child. On examination, the right ear was discharging and there were beginning symptoms of meningitis. The patient was extremely toxic and very sick. A mastoid operation was performed immediately, but five days later death occurred as a result of meningitis, which the autopsy revealed as a direct extension from the mastoid infection.

A few days later I had a typical case illustrative of those which are operated upon early. This child presented practically the same clinical picture, except for a lesser degree of toxemia and no signs of meningitis. Both drums were bulging posteriorly, and on paracentesis there was a profuse discharge from both ears. There was no improvement for two days, and a mastoid operation was done. Several days after, the diarrhea had ceased, there being even a tendency to constipation, and the child was gaining weight.

John R. McCurdy, M.D. (Dormont, Pa.): While these children are bad risks surgically, the manner in which they withstand anesthesia is quite surprising. Until recently, most of these operations were done under ether, which imposes a severe strain on the patient of low vitality. Only very light anesthesia is necessary, and the child may even be allowed to move. One of the best means of carrying ether anesthesia in children is by vaporizing the ether with pure oxygen. On account of the limited field, it is almost necessary to use vaporized rather than drop ether.

Recently we have been using ethylene, and its advantage over nitrous oxid is striking. It may be administered with a high percentage of oxygen with very little damage. While ethylene should be handled by an expert anesthetist, the method is quite simple, and with a specially adapted face inhaler, it may be administered exactly as is nitrous oxid. We have had patients from seven weeks of age to ten years.

William H. Sears, M.D. (Huntingdon, Pa.): It is in the larger cities that clinics exist which provide an opportunity for thorough group study of these cases. Many physicians, however, are not associated with such clinics or are connected with smaller ones which are limited in their ability to care for this type of case. Routine examination of the ears of all children during any acute illness must, therefore, be considered a necessity, and the otologist should insist that the internist call on him to help solve these problems.

Dr. McCready called attention to the different angle in the placing of the tympanic membrane of the infant as compared with the adult, and the fact that it may present no noteworthy symptoms. Indeed, one who is not accustomed to routine examination of children's ears may think there is a retraction of the drum rather than a swelling or bulging.

In making the incision, I extend it through the posterior superior wall the first time. Lyman and Alden have reported some cases in which they opened the antrum and found diseased tissue, although the middle ear showed nothing and there were no particular symptoms of involvement of the drum membrane.

Watson Marshall, M.D. (Pittsburgh, Pa.): Conservatism in diagnosing and radicalism in operating is the ideal combination. Twenty years ago there were cases of gastro-intestinal irritation in children which were definitely relieved by paracentesis. The new aspect of the problem is not so much removal of infection in the middle ear as in the mastoid. Recent work at the Mayo Clinic has shown the effect of infections of the pharynx, nasopharynx, and accessory sinuses on such conditions as gastric ulcer and enteritis.

It is an impressive fact that practically all of the children with this type of mastoiditis come from homes where conditions are bad. In some hospital wards, also, especially in crowded ones, little children may be seen with their backs bare, maybe with an open window near by, or lying flat with a nursing bottle propped in the mouth, so that it is easy to visualize the milk running into its ears. It would be interesting to know the time of the development of the ear involvement. Both the surgical and medical sides of this problem should be studied intensively because the root of the matter has not yet been reached.

Harold J. Byron, M.D. (Connellsville, Pa.): There seems to be a slight tendency towards radicalism. It must be borne in mind that leukocytosis, fever, and general reaction may be marked in children because of rapid absorption, for if this fact is forgotten, it is very easy to become radical.

In our work all mastoids are now x-rayed to determine the position of the lateral sinus before operation. We are trying to collect a large series and possibly establish some relation to the type of temporal bone and position of the sinus. We remove the cortex with a large gouge, working toward the antrum. We feel that there should be little curetting until it is known more definitely whether the jellylike contents of the cells is pathologic or whether it has something to do with the development of the hearing organ.

David I. Giarth, M.D. (Ford City, Pa.): Many of these children have a tendency to colds, pharyngitis, and throat involvement. Infection of the eustachian tube followed by inflammation of the tympanic membrane is easily recognized, but very frequently the general practitioner overlooks the ear.

Like Dr. Sears, in doing a paracentesis, I make a semicircular incision in the posterior superior wall. Efficient drainage can be obtained in this way, and it often gives immediate relief and produces very satisfactory results.

Michael Depta, M.D. (Pittsburgh, Pa.): In 57 autopsies on children between the ages of a few months and five years, 33 revealed pus in both external auditory meati and in both mastoid antra. In 9 the drum appeared dull, dirty gray, thick and soggy, with all details obliterated, yet there was no macroscopic evidence of middle-ear disease. In none of these examinations was there any macroscopic evidence of lateral-sinus or intracranial involvement. The diagnosis of these cases ante mortem varied, but in not one was there any mention of ear or intracranial involvement.

DR. MCCREADY (in closing): In myringotomy it is important to bring the incision along the posterior superior wall, as this is the proper incision to drain the middle ear, but in many cases the mastoid is involved to such an extent that operation must be done.

No doubt, in many of these cases acidosis is marked, but they are in such a serious condition that we disregard it almost entirely before operation, as immediate operation is necessary. We have had little trouble from postoperative acidosis as a result of the very light anesthesia which we use. Ethylene will prevent many of the after-effects, and it produces less reaction and constitutional disturbance than ether.

The amount of infection found in the tegmen and zygomatic cells at complete mastoidectomy is surprising. In a large majority of cases these cells are filled with pus and granulations, and our results have been very much better with the complete operation than with the simple antrotomy. The number of recurrences has been greatly reduced. The most difficult part of the operation is finding the antral cell, as in many cases it is only as large as a pea. The mastoid incision must be made high enough to expose the superior canal wall. The cell lies immediately below and back of the canal. Henley's spine is usually absent.

The mortality rate is high in these cases, depending upon early or late diagnosis. If the patient is fairly well nourished, haste is not so essential, but in the extremely emaciated cases, a delay of twenty-four hours may be fatal.

Symposium On the Newborn *

HEMORRHAGIC DISEASE OF THE NEWBORN

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Despite the fact that a great deal of study has been made on hemorrhagic disease of the newborn, it is still a disease which is surrounded with more or less confusion. In reviewing the literature one is impressed with the fact that at the conclusion of many articles, the reader is left in a state of quandary as to whether or not the cases presented are true hemorrhagic disease.

The reading of these articles stimulated in us an interest, so that we began to make careful observations on all the newborn infants at the Jefferson and Philadelphia Lying-In Hospitals. We were positive, after reviewing the subject, that we should have the opportunity of studying a few cases. Although we have observed many hemorrhages of the newborn, nevertheless we have noted only two cases which could be called hemorrhagic disease.

Various classifications of the hemorrhages of the newborn have been proposed, but the one which is generally accepted is that of Schloss and Commiskey[1], who classified them as follows: (1) Traumatic, or those hemorrhages which depend on causes during delivery. (2) Accidental, e.g., insecure tying of the cord. (3) Spontaneous, or those which occur with no apparent cause and which are subdivided into: (a) symptomatic, or those incidental to syphilis, sepis, or to offspring of hemophiliac families; (b) idiopathic, i.e., without known cause, or hemorrhagic disease of the newborn.

It seems, however, that we can go a step further and remove hemorrhagic disease from the division of idiopathic hemorrhages and place it in a class by itself. It is undoubtedly a distinct entity. It is true that we do not know the cause, yet it is equally true that all hemorrhages of unknown etiology are not true hemorrhagic disease. Cases to bear this out will be cited later on in the paper. It is because of the fact that all idiopathic hemorrhages have been considered as hemorrhagic disease that the present confusion surrounding it exists and that statistics have been at variance.

FREQUENCY

There is a great deal of discrepancy as to the incidence of the disease as reported by various authors. This is due to the fact, as just stated, that the various observers differ as to what constitutes the disease. For example, Holt[2] reports 1%, Rochester General 1%, Boston Lying-In 0.6%, Ritter[2] 1.4%, and Epstein[2] 8%. Rodda[3] reports 1 case in each 100 births. With the exception of the cases reported by Rodda, all of the reports include those cases which are associated with sepsis and syphilis, and those which are not supported by delayed coagulation and bleeding times. Therefore, it follows that the incidence noted by Rodda is much higher than that reported by other observers.

Our own observations show the following incidence: At the Jefferson Hospital 1 case in 1,200 births, at the Philadelphia Lying-In Hospital 1 case in 1,897 births, making 2 cases in a total of 3,097, or 1 case in each 1,548 births. This is in accord with Nohl, who cites 1 case in 1,816 births.[4] Winkel[5], Gerhardt[6], and Ribemont[7] reported 1 case in 5,000.

SYMPTOMATOLOGY AND DIAGNOSIS

Two symptoms characterize the disease and are essential to arrive at a diagnosis; viz., (1) hemorrhage and (2) prolongation of the coagulation and bleeding times.

(1) The hemorrhage may be concealed or evident. When evident, it may appear from the nose, mouth, or intestinal tract. From the mouth it appears in the form of dark-brown vomitus, rarely bright red, and from the intestinal tract as

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*Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 5, 1927.

black, tarry stools. The bleeding may take place from the umbilical cord, from the vagina, or from the urethra, or the hemorrhage may be into the skin or again it may manifest itself as a rapidly growing cephalematoma. When concealed, it is usually intracranial, or it may be in the lungs or in any of the abdominal viscera, especially the adrenals.

The hemorrhages appear during the first week, usually the second or third day, and as a rule are multiple. There may be few or no premonitory symptoms. There may be pallor and restlessness. The temperature is usually normal, although it may be temporarily high, and in massive hemorrhages subnormal. The particular symptoms in any one case depend on the site and extent of the hemorrhage. There may be slight continuous oozing, or massive hemorrhages accompanied by rapid loss of weight and prostration.

In cerebral hemorrhage, the infant appears drowsy, does not nurse well, and has difficulty in swallowing. There is a sharp plaintive cry—the so-called "cerebral cry." Twitching of the muscles and convulsions may be present. There may be retraction of the head, and in massive hemorrhages bulging of the fontanelles. Respiration is disturbed, and the pulse is usually slow.

There is dyspnea and cyanosis when the hemorrhage is in the lungs, and collapse when in any of the abdominal viscera.

(2) Prolongation of the coagulation and bleeding times is the sign especially brought out and emphasized by Rodda.[8] It is the most constant and diagnostic sign, and by it hemorrhagic disease is differentiated from other idiopathic hemorrhages. It may appear before any other evidence of hemorrhage, and it may be advisable, as urged by Rodda, that the test be done routinely on all newborn infants.

The normal coagulation time, according to Rodda[8], is five to nine minutes; according to Bass[9], six to twelve minutes. The normal bleeding time, as shown by Duke, is two to five minutes.

Differential Diagnosis

This has already been alluded to in the classification of hemorrhages of the newborn. In those cases in which the hemorrhage is accidental or due to trauma, the history, as a rule, will make the diagnosis. A point to remember, however, is that there may be trauma in a normal spontaneous delivery. Cases of this type are being constantly observed. Another point to bear in mind is that hemorrhagic disease may be associated with trauma, so that in all cases the coagulation and bleeding times should be taken. The condition is differentiated from syphilis by a history of infection in either parent, by laboratory tests, and by the signs of lues. In those cases due to sepsis, there is a history of infection. The signs are present for days before any evidence of hemorrhage appears. The spleen and liver are enlarged, and purpuric manifestations are present in the skin. Lastly, it is differentiated from idiopathic hemorrhage by the fact that in the latter the coagulation and bleeding times are within normal limits.

Treatment

There is only one treatment, and that is the administration of human blood. It should be given on the slightest evidence of hemorrhage, as there may be concealed extensive hemorrhages elsewhere. Twenty to thirty c.c. should be given intramuscularly, and repeated in two to six hours if necessary. It may also be used intraperitoneally. In massive hemorrhages it should be given intravenously. Fifty to one hundred c.c. of the citrated blood, using ten c.c. of three-per-cent sodium-citrate solution to one hundred c.c. of blood, is injected at body temperature into the external jugular vein or superior longitudinal sinus.[13] When given intraperitoneally, preliminary typing is unnecessary, but when administered intravenously, agglutination tests should be performed, as the serum of a small proportion of newborn infants contains agglutinins for adult corpuscles.

Conclusions

(1) Hemorrhagic disease of the newborn is a distinct entity. It should be classified alone, and not included among the idiopathic hemorrhages.

(2) Only those cases which present evidence of hemorrhage during the first week, usually multiple, and accompanied by a prolongation of coagulation and bleeding times, should be considered hemorrhagic disease.

(3) The incidence is not quite so high as one would be led to believe from the data obtained in the literature.

(4) Human blood is a specific for the disease, and should be administered on the slightest evidence of hemorrhage. The earlier it is given, the better the prognosis:

Case Reports

Case 1. Baby A, male, was born in February, 1927. On the third day after birth oozing from the cord began. It was retied, but the oozing continued. The coagulation time was 11 minutes, 45 seconds; the bleeding time was 5 minutes, 15 seconds. On the seventh day after birth an extra digit was removed. This was followed by a profuse hemorrhage, one ounce of blood being lost. Twenty c.c. of whole blood was

given intramuscularly. The coagulation and bleeding times were reduced to five minutes and two minutes respectively. The bleeding promptly ceased.

CASE 2. Baby B, female, was born in April, 1927. Vaginal bleeding began on the sixth day following birth, and continued for three days. The coagulation time was 8 minutes, bleeding time 4 minutes. Twenty c.c. of whole blood was injected intramuscularly, with the prompt cessation of the hemorrhage.

CASE 3. Baby C, male, was born in September, 1927. On the second day after birth he began to pass blood from the intestinal tract. He had three movements that night, and two the next morning. The blood was mixed with the movements. The coagulation time was 5 minutes, the bleeding time 2½ minutes. Ninety c.c. of citrated blood was given intraperitoneally, and 30 c.c. in 70 c.c. of Ringer's solution was given 6 hours later. There was a rise in temperature to 102° following the injections, but it returned to normal six hours later. The hemorrhage promptly ceased.

CASE 4. Baby D, male, born in January, 1925, was delivered by version. Weight was 7 lbs. 8 oz., and the child was apparently normal. On the third day, signs of cerebral hemorrhage and many large ecchymotic spots over the body appeared. The coagulation time was 30 minutes, the bleeding time over one hour. The hemoglobin was 50 per cent. Despite the administration of blood intravenously, the infant died four hours later. Autopsy showed cerebral hemorrhage and hemorrhages throughout the body, with no pathology to account for it.

COMMENTS

Cases 1, 2, and 3, we classify as idiopathic hemorrhages and not hemorrhagic disease, because the bleeding and coagulation times were within normal limits. Cases of this type are likly to be reported as hemorrhagic disease. Case 4 illustrates the picture we wish to leave behind as constituting hemorrhagic disease, the onset of the hemorrhage, its multiplicity, and the prolongation of coagulation and bleeding times being typical of the disease.

In closing, it is hoped that in the future cases presenting the foregoing symptomatology will be considered as hemorrhagic disease, so that more reliable data may be obtained.

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VALUE OF EARLY TREATMENT IN SYPHILIS OF THE NEWBORN

Preliminary Report

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Numerous articles have been written by syphilographers and others interested in the diagnosis and treatment of congenital syphilis. So far, however, the work has all been done on cases in which symptoms of the disease have become manifest either at birth, shortly afterwards, or, as is frequently the case, some months or even years later. These men all advocate early treatment, stating that patients treated late, although they respond so far as clearing up of symptoms is concerned, seldom show a negative Wassermann, even after years of intensive treatment.

Our plan is to start as soon as the baby is born, not to wait for symptoms to appear. With this idea, a little over a year ago, in the nursery at the Philadelphia Lying-in Hospital, we started treating, immediately after birth, all babies with positive cord Wassermanns born of mothers with positive blood Wassermanns.

INCIDENCE

The occurrence of syphilis, as we find it at the hospital, is interesting to note:

From March 1, 1925, to September 1, 1927, 1,646 babies were born. Of these, 192 (11 per cent) had positive reports from either the mother's blood, cord blood, or both, 95 per cent being negroes. In 111 cases (6 2/3 per cent) both bloods showed positive Wassermanns. Of the remaining 81 cases there were 39 negative cords with positive Wassermanns in the mothers. A few of these mothers had had treatment during the prenatal period. This suggests that a syphilitic mother may occasionally have a healthy child, supporting Profeta's law. A certain percentage of these would probably show a positive reaction later, as the value of the cord Wassermann is open to question. (See chart 1.) There were fifteen mothers whose reaction was negative, but who had babies with positive cord Wassermanns. Does this prove Colles's law? Can a healthy mother give birth to a luetic child and not be infected herself or become infected by the nursing child?

This percentage of syphilis is lower than formerly believed, as Stevens[1] records syphilis in 20 per cent of hospital patients. Seven infants, all premature, died a few hours after birth. Stillbirths have not been included in this series.

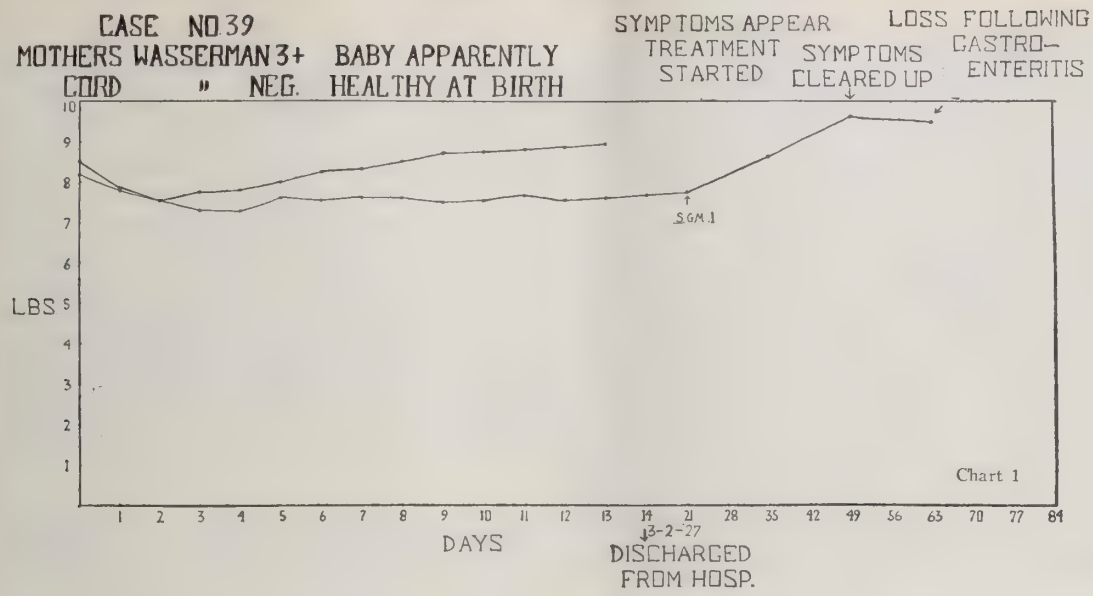


Chart 1

Results of Treatment

Of the 102 luetic babies born of luetic mothers, the average birth weight was 6 lbs. 14 oz. This does not include the ones who died during the two weeks in the hospital or any under 4½ lbs. These were considered premature, and therefore not suitable for weight comparisons.

Of the 102 healthy babies picked at random from our records, the average birth weight was 7lbs. 2 oz.

Fifty-one of the affected babies were given no treatment while in the hospital. Their average gain over their birth weight was 3 oz.

Fifty-one similar babies with positive cord Wassermanns were each given, while in the hospital, weekly injections of either mercury or arsenic (mercury if no symptoms were present at birth, arsenic if they were). Their average gain was 4 oz. above birth weight.

The average gain of the 102 *healthy* babies was also 4 oz., and 70 per cent of these returned to their birth weight while in the hospital. Of the treated series, 72 per cent accomplished this, as compared with only 59 per cent in the untreated cases. (See chart 2.)

Up to September 1, 1927, 76 babies received treatment while in the hospital, and 52 of these have had time to complete the first course of injections. Only 16, however, have come regularly enough to finish this course and have a Wassermann taken. Only 12 of these returned for Wassermanns. These were all negative. Six of the 52 died while receiving treatment, 5 of intercurrent infection and one by accident. Five moved to other towns, and were referred to hospitals in these towns for treatment. The remaining 23 received three or more treatments, then were lost or the mothers objected to further treatment because of the baby's apparent good health.

These 52 children received 443 injections in all, or an average of about 9 injections each. None of those who remained under observation developed any symptoms of lues, and all those who had symptoms at birth had cleared up by the fifth or sixth treatment, with one exception, an infant who had a hemorrhage from the cord as it dropped off on the eighth day. This baby did poorly for a while, but is now well except for a markedly enlarged liver and jaundice. (See chart 3.)

Method of Treatment

Primarily the treatment of congenital syphilis is the treatment of the pregnant mother. This point has frequently been stressed. When this

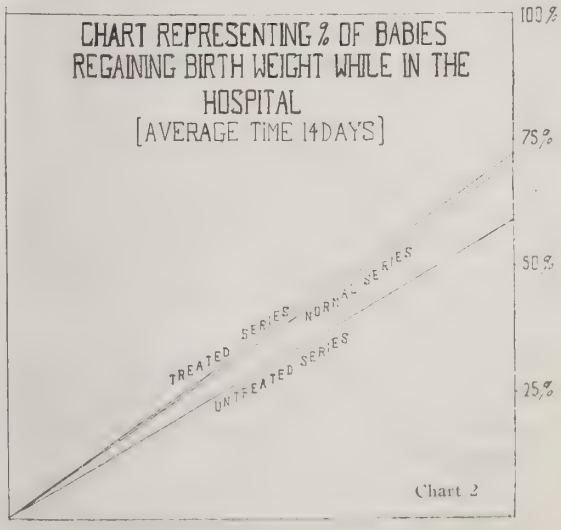
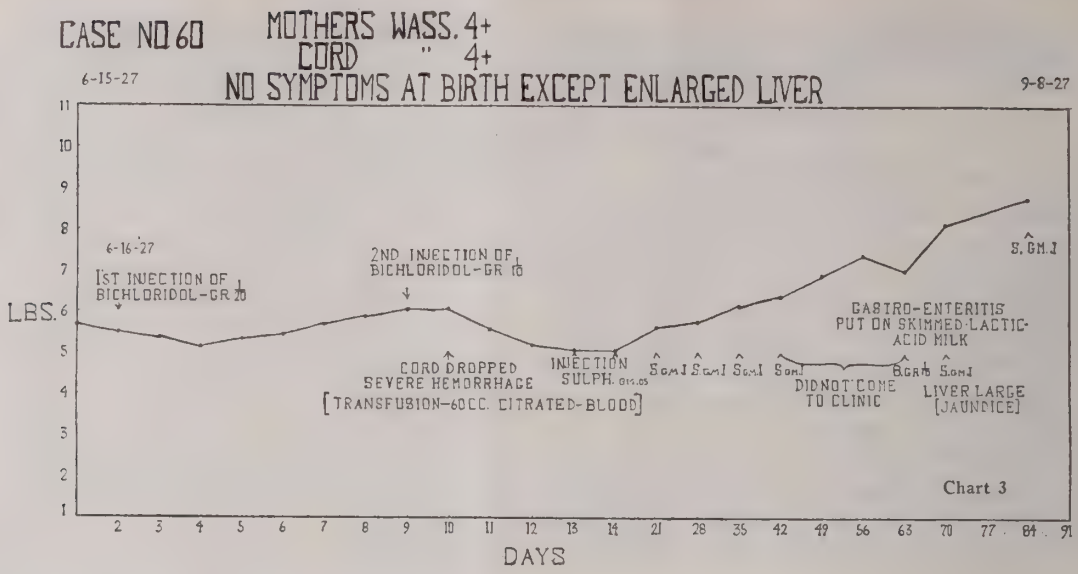


Chart 2



has been neglected, it is necessary, of course, to treat the diseased baby.

The method we follow is the one used by Sherwood[2]; namely, four weekly injections of mercury, using bichloridol, followed by six weekly injections of arsenic, using sulpharsphenamin, and ending with four more injections of mercury. A month's rest is followed by a Wassermann test. If the latter is positive, the above course is repeated until it becomes negative. If it is negative, we have been using four weekly injections of arsenic at bimonthly intervals, taking a second Wassermann at the end of a year.

Conclusions

In a recent article by Cannon[3], the statement is made that when treatment of congenital syphilis was started in early infancy the Wassermann reaction usually became negative after about four courses of arsenic and mercury and remained so. We agree with Dr. Cannon in advocating early treatment, but we believe in going one step further, and advocate treatment as soon after birth as possible, whether symptoms are present or not, and we believe the Wassermann reaction can be more easily swung to negative and kept there by this procedure. Early treatment not only prevents the disease from developing and spreading but can cure it, and it distinctly aids in the nutrition and growth of these unfortunate babies.

Whether our figures are convincing in such a comparatively small series is questionable. They are certainly encouraging, and should stimulate a continuance of this work.

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FEEDING SCHEDULES FOR MATERNITY NURSERIES

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The weighing of babies before and after feeding to determine the amount of breast milk ingested is not a new procedure. It is frequently spoken of in the medical literature of forty and fifty years ago. There has been a revival of interest in this subject, if one can judge from its frequent appearance in recent literature. Using this procedure as a means of comparing three- and four-hour feeding schedules, however, has apparently not been done previously.

The material for this paper was secured by a special study of three- and four-hour feeding schedules in the nursery of the Philadelphia Lying-In Hospital. The babies studied were under the same nursery routine, and were alternate babies so far as possible. Only full-term, normal, healthy babies, whose birth weights were above five pounds, were considered. The weighings before and after feeding were done by graduate nurses on special duty. All babies nursed one breast at a feeding. The amount of breast milk secured by the babies during the time they remained at the nursery has been ascertained.

According to Chart I, thirteen babies were fed every three hours, with eight feedings in twenty-four hours. A total of 1,076 weighings before and after nursing were made. These babies averaged 1.43 ounces of breast milk per feeding, or 11.4 ounces of breast milk per day.

According to their weight they averaged 1.44 ounces per pound. Twenty-six babies were fed every four hours with six feedings in twenty-four hours. A total of 1,511 weighings, before and after nursing, were made. Each baby in this group secured an average of 1.59 ounces of milk at each feeding, or 9.5 ounces per day. They averaged 1.34 ounces per pound. The babies in this group were larger than the babies in the first group mentioned. It is usually stated that young infants need 2 to 2½ ounces of breast milk per pound body weight for satisfactory growth.

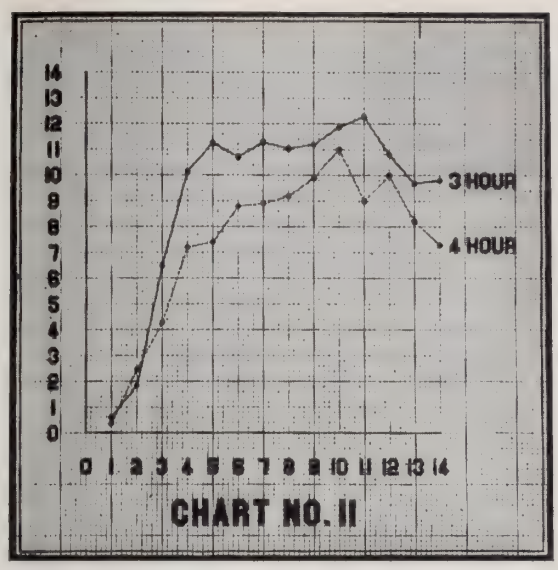
Camerer gives us the amounts of breast milk secured in the first two weeks, showing a steady increase up to the fourteenth day:

First day	1 ounce	Fifth day	11 ounces
Second day	4 ounces	Sixth day	12 ounces
Third day	8 ounces	Seventh day	13 ounces
Fourth day	9 ounces	Tenth day	15 ounces
	Fourteenth day	17 ounces	

Chart II shows the average amount of breast milk secured by these babies during the first fourteen days of life, the heavy line representing those feeding every three hours and the dotted line those feeding every four hours. The breast milk usually comes in on the third or fourth day, reaches its height on the tenth or eleventh day, and falls off slightly during the next three days. The reduction in the amount of breast milk secured when the mother is allowed out of bed has been noted clinically many times. Thus, it is a frequent occurrence for a newborn infant's weight to fall suddenly about the time the mother is allowed out of bed.

The suggestion that newborn babies be put to the breast at three- or four-hour intervals during the first twenty-four hours after birth and thereafter is useless. The newborn baby needs sleep and rest during the first several days more than it actually needs food. Water can be given at intervals. Weighings before and after feeding in this period show that most of the babies actually lost weight during the act of nursing. However, we believe that the feeding during the first few days of life is more important

CHART NO. I		3 HOUR	4 HOUR
NUMBER OF BABIES		13	26
WEIGHINGS		1076	1511
AVERAGE OUNCES	PER FEEDING	1.43	1.59
	PER DAY	11.4	9.5
	PER POUND	1.44	1.34



than any other time, in the establishment of regular feeding and sleeping habits. It is usually the custom at the Philadelphia Lying-In Hospital to have the babies nursed three times during the first twenty-four hours, four times during the second twenty-four hours, and then every fourth hour.

The amount of milk secured at individual feedings varied from nothing to 7 ounces. Babies frequently secured 4 ounces of breast milk at a feeding. One baby on the four-hour schedule averaged 3.14 ounces per feeding. Another on the same feeding schedule averaged only 1.08 ounces per feeding. Generally speaking, the babies who took large amounts of milk at one feeding would take very little at the next feeding. This statement applies to both feeding schedules.

Drawing conclusions regarding the amount of breast milk secured, from one weighing before and after nursing, is dangerous. So many variations occur that averages for five or six days should be made before an accurate estimate can be secured. The size of an infant's stomach is not a measure of the amount of food it is able to take at a single feeding. The largest amount secured by a baby at one time was seven ounces. The baby's stomach probably holds from one to two ounces at birth. The excess of milk must evidently pass immediately into the duodenum.

Certain feedings on the four-hour feeding schedule seemed to be considerably better than others. The 10 a.m. feeding, which follows the daily bath, and the 6 p.m. feeding seemed to be the best. The feedings at the various hours on the three-hour schedule appeared almost uniform. Chart III shows the number of weighings at each feeding time, with the average amount of milk secured at each feeding.

Repeating the observations made by Smith and his coworkers[1] and others, normal, full-term babies were weighed every three minutes during the nursing period of twenty minutes. Chart IV shows that the babies got most of their milk in the first ten minutes, and frequently refused further nursing. At the times when little was secured in the first part of the nursing they would nurse the full twenty-minute period.

Two normal, full-term babies were allowed to nurse ten minutes on each breast at a feeding. Three weighings were made in each ten-minute period. Chart V shows that the babies secured more milk during the second ten minutes of nursing when a second breast was offered than when the baby was allowed only one breast. The first milk was probably the easiest secured, and babies soon learn the easiest way. The average amount of milk secured by allowing the babies to nurse ten minutes on each breast was greater than when they were allowed to nurse only one breast for twenty minutes. Clinical experience has demonstrated this fact. Many babies start to grow as soon as permitted to feed ten minutes on each breast at each feeding.

Many objections to babies nursing ten minutes on each breast are made. It is said that the breasts are not emptied, that the breasts are overstimulated, and that the baby gets too much milk. In answer to some of these objections it has been shown repeatedly that babies refuse to nurse after receiving a large amount of milk

CHART NO. III	AMOUNT OF MILK SECURED AT VARIOUS HOURS			
HOUR	WEIGHINGS	AMOUNT OF MILK	WEIGHINGS	AMOUNT OF MILK
2 A.M.	257	1.61 OZ.		
3 "			132	1.48 OZ.
4 "				
5 "				
6 "	261	1.56 "	133	1.41 "
7 "				
8 "				
9 "			138	1.49 "
10 "	256	1.75 "		
11 "				
12 M.			134	1.43 "
1 P.M.				
2 "	251	1.45 "		
3 "			134	1.46 "
4 "				
5 "				
6 "	223	1.82 "	134	1.34 "
7 "				
8 "				
9 "			134	1.54 "
10 "	263	1.61 "		
11 "				
12 A.M.			130	1.28 "

NORMAL BABY - 3 MINUTE INTERVAL WEIGHINGS - ONE BREAST								
10 A.M. FEEDING			2 P.M. FEEDING			6 P.M. FEEDING		
TIME	OUNCES		TIME	OUNCES		TIME	OUNCES	
	A	B		A	B		A	B
10:03	.5	1.9	2:03	1.5	.9	6:03	1.8	1.3
10:06	.6	1.9	2:06	1.4	1.0	6:06	1.2	1.9
10:10	.3	1.7	2:10	1.4	.2	6:10	0	1.3
1ST 10 MIN.	1.4	5.5	1ST 10 MIN.	4.4	2.1	1ST 10 MIN.	2.0	4.5
10:13	0	.7	2:13	.9	.6	6:13	.5	.3
10:16	.5	REF'D.	2:16	.6	.7	6:16	REF'D.	.3
10:20	.1	"	2:20	REF'D.	REF'D.	6:20	"	REF'D.
2ND 10 MIN.	.6	.7	2ND 10 MIN.	1.5	1.3	2ND 10 MIN.	.5	.6
TOTAL	2.0	6.2	TOTAL	5.9	3.4	TOTAL	3.3	5.1

whether on one breast or on two, regardless of whether it is a three- or four-hour feeding schedule. The question of whether the breast is emptied when babies are allowed to nurse ten minutes on each breast is not easily settled. Smith's conclusions that the average baby empties the breast after five to ten minutes may probably mean that the baby takes all it wants in that period. According to Hoobler,[2] certain lactating mothers have given from one to two quarts of breast milk twice daily, requiring about twenty-five minutes for the expression of this milk by hand or by the electric breast pump. It is perfectly obvious that if a baby were to nurse from such a mother it would be impossible for the baby to empty the breast. It also suggests that the breast does not have a limited capacity, and that it is somewhat difficult to determine just when the breast is emptied. It is very probable that the breast is an organ that meets the demand placed upon it, and that the milk is secreted during the continuing of this demand.

Chart VI shows an attempt to find out if the breasts are emptied by allowing the baby to nurse ten minutes on each breast. Two normal, full-term, healthy babies of the same size and age were allowed to nurse for ten minutes respectively on one breast. Each baby was weighed at the beginning and end of the ten-minute period. The first baby got more than the second, and at times the second baby failed to get any food. The electric pump was also tried in place of the second baby, but it was not as successful as the second baby. The two babies were allowed to nurse six minutes on each breast at each feeding. Under these circumstances the second baby secured more from the second breast.

At our well-baby clinic at the Philadelphia Lying-In Hospital we have had an opportunity for observing these babies during their first year. Careful records are being kept regarding

the continuing of our four-hour feeding schedule after the mothers' return to their homes. A frequent complaint is made that the babies become hungry before the end of the period, and the mothers of their own volition reduce the interval to three hours and some of them reduce it to a two-hour schedule or whenever the baby cries.

It has been a frequent clinical observation that when babies are given ten minutes' feeding time on each breast every four hours, their growth seems to be more uniform and there is less likelihood of severe indigestion. Small and delicate babies apparently do better on a feeding schedule with shorter intervals. The delicate baby lacks sufficient strength to get enough milk for its needs on the four-hour schedule.

In a paper presented before the Philadelphia Pediatric Society on "Weight Observations in the Newborn" it was shown that the loss in weight of babies fed on the four-hour schedule was smaller than for those fed on a three-hour schedule, and at the same time the gain in weight during their period of stay in the nursery was slightly better for the four-hour feeding schedule. It was found that 917 babies on the four-hour schedule lost 7.3 per cent of their birth weight, while 471 babies on the three-hour schedule lost 8.7 per cent of their birth weight. The gain in the first group was 9.8 per cent of their birth weight for the four-hour feeding schedule, and 8.2 per cent in the latter group.

In a maternity hospital with an active service of forty to fifty deliveries each month, considerable time is consumed in taking the babies to their mothers, supervising the feeding, and returning them to the nursery. At the Philadelphia Lying-In Hospital it usually requires four nurses for one hour at each feeding. If a schedule with five or six feedings in twenty-four hours is just as successful as a schedule requiring six or seven feedings, so far as the baby and the mother are concerned, much time will be saved by adopting the four-hour schedule.

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ABSTRACT OF DISCUSSION
Of Symposium on the Newborn

Leonard F. Bender, M.D. (Philadelphia, Pa.): About eight years ago the pendulum was swinging from the two-hour to the four-hour feeding schedule. Now it seems to be gradually returning towards the three-hour period.

Dr. Hanna, chief of the maternity department of the Frankford Hospital, has prepared the following chart showing the variation in 400 cases. It will be noted that the first group of 100 cases during the first week in the hospital were on the two-hour and during the second week on the four-hour feeding schedules. This group showed a net loss of 2.68 oz. The second group, on the two-hour schedule both weeks, showed a net gain of 1.53 oz. Those on the three-hour schedule both weeks showed a net gain of 0.48 oz., while the group on the four-hour schedule for the two weeks showed a net loss of 1.83 oz.

The second group of infants included only those under six pounds, with ten in each group. Those on the two-hour schedule the first week and the four-hour the second week showed a net loss of 4.1 oz. Those on two-hour feedings both weeks lost on the average of 2.1 oz., while the third group, on the three-hour schedule both weeks, showed a net gain of 1.65 oz.

100 Feeding Cases in Each Group	Weight at Birth	Weight on 14th Day	Net Gain	Net Loss
2 hr. 1st wk., 4 hr. 2d wk.	7 lb. 5.96 oz.	7 lb. 3.28 oz.	0	2.68 oz.
2 hr. 1st and 2d wks.	7 lb. 4.08 oz.	7 lb. 5.61 oz.	1.53 oz.	0
3 hr. 1st and 2d wks.	7 lb. 8.82 oz.	7 lb. 9.30 oz.	.48 oz.	0
4 hr. 1st and 2d wks.	7 lb. 1.70 oz.	6 lb. 15.87 oz.	0	1.83 oz.
Infants Under 6 Lb. 10 feeding cases in each group				
2 hr. 1st wk., 4 hr. 2d wk.	5 lb. 4 oz.	4 lb. 15.9 oz.	0	4.1 oz.
2 hr. 1st and 2d wks.	5 lb. 7.2 oz.	6 lb. 5.1 oz.	0	2.1 oz.
3 hr. 1st and 2d wks.	5 lb. 8.3 oz.	6 lb. 9.95 oz.	1.65 oz.	0

Percival Nicholson, M.D. (Ardmore, Pa.): Dr. Tyson's paper is most interesting and instructive, but like all statistical studies, it applies in general and has many individual exceptions. The first two weeks of an infant's life is a very unreliable period in which to evaluate feeding intervals by weight, as there often is considerable loss of body weight due to loss of meconium and water.

The choice of a four-hour or three-hour feeding interval is an individual matter. If the mother has a large supply of milk, other things being equal, it is perfectly legitimate and probably wise to prescribe a four-hour interval. But when the mother has a small supply of milk and the child is not gaining well, in my experience the average case has done better on a three-hour schedule. A standard feeding interval cannot be adopted from statistics alone.

John F. Sinclair, M.D. (Philadelphia, Pa.): If Dr. Atlee's findings as to the value of early treatment of congenital syphilis are confirmed by a larger series of cases it will explain to a great extent the lack of

NORMAL BABY + 3 MINUTE INTERVAL WEIGHINGS - 10 MINUTES EACH BREAST								
10 A.M. FEEDING			2 P.M. FEEDING			6 P.M. FEEDING		
CHART NO. 7 TIME	OUNCES		TIME	OUNCES		TIME	OUNCES	
	A	B		A	B		A	B
10:03	1.6	1.7	2:03	2.4	.8	6:03	1.5	1.2
10:06	1.	1.	2:06	2.3	.3	6:06	.0	.8
10:10	.1	1.	2:10	.6	1.	6:10	.1	.1
R. BREAST	2.7	3.7	R. BREAST	5.3	2.7	R. BREAST	1.6	2.2
10:13	1.3	1.7	2:13	.4	2.0	6:13	1.7	.8
10:16	.6	.6	2:16	.4	.1	6:16	.0	REF'D.
10:20	REF'D.	REF'D.	2:20	REF'D.	REF'D.	6:20	REF'D.	REF'D.
L. BREAST	1.9	2.3	L. BREAST	.8	2.0	L. BREAST	2.3	.8
TOTAL	4.6	6.	TOTAL	6.1	5.6	TOTAL	3.9	3.

results secured in hospital treatment when such cases are received only at a later date. At the Babies' Hospital in Philadelphia these patients rarely reach us before the sixth week, and often later. By that time the disease has gotten a good start, and we find it extremely difficult to get the babies Wassermann negative or to keep them so for any length of time.

GEORGE J. FELDSTEIN, M.D. (Pittsburgh, Pa.): Intracranial hemorrhage of the newborn is of great importance, not only on account of the immediate mortality, but also because of the subsequent morbidity, with such sequelæ as Little's paralysis. mental deficiency, etc. Of course, intracranial hemorrhage of the newborn is not usually the result of hemorrhagic disease; the majority of the cases are the result of trauma. However, as stated by Dr. Coppolino, there is a group of cases due to hemorrhagic disease, more particularly in premature infants, in which there is a tendency to spontaneous hemorrhage.

CHART NO. VI								
10 A. M. FEEDING			2 P. M. FEEDING			8 P. M. FEEDING		
TIME	BABY	OZ.	TIME	BABY	OZ.	TIME	BABY	OZ.
NORMAL BABIES - EACH NURSED 10 MINUTES ONE BREAST								
FIRST DAY								
10:10	M	2.5	2:10	M	3.8	6:10	M	2.4
10:20	K	0	2:20	K	1.8	6:20	K	1.1
SECOND DAY								
10:10	M	1.4	2:10	M	2.9	6:10	M	1.9
10:20	BR. P.	.5	2:20	BR. P.	.5	6:20	BR. P.	.5
NORMAL BABIES - EACH NURSED 6 MINUTES EACH BREAST								
10:06	M (R)	2.2	2:06	M (R)	.6	6:06	M (R)	1.6
10:12	M (L)	.5	2:12	M (L)	.2	6:12	M (L)	.2
10:18	K (R)	0	2:18	K (R)	.1	6:18	K (R)	.1
10:24	K (L)	1.0	2:24	K (L)	0	6:24	K (L)	.3
NORMAL BABY - 10 MIN. EACH BR. FOLLOWED BY BR. PUMP								
10:10	M (R)	1.1	2:10	M (R)	1.3	6:10	M (R)	1.
10:20	M (L)	.5	2:20	M (L)	.2	6:20	M (L)	0
5 MIN. BR. P.		1.	5 MIN. BR. P.		3.	5 MIN. BR. P.		1.

The majority of pediatricians are probably agreed that lumbar puncture is indicated in all cases of intracranial hemorrhage of the newborn in which there are signs of intracranial pressure. Opponents of this method of treatment claim that the withdrawal of the blood will lead to further hemorrhages. In hemorrhagic diseases, where the coagulation and bleeding times are prolonged, blood transfusion by the sinus route, intraperitoneally, or by intramuscular injection is indicated. The removal of the blood by lumbar puncture will save many infants from death as a result of pressure on the respiratory or circulatory centers, or from convulsions, and will greatly reduce the possibility of future sequelæ.

In infratentorial hemorrhage, where there is blockage of the canal, and the lumbar puncture gives little or no fluid, puncture of the cisterna magna may be lifesaving. In supratentorial hemorrhage, fontanel puncture may be of value. When symptoms indicate ventricular hemorrhage, ventricular puncture may be done.

JOHN F. COPPOLINO, M.D. (Philadelphia, Pa.): In regard to the significance of a negative Wassermann in a three-months-old baby, I desire to say that laboratory tests should not be relied upon for diagnosis in the early months. It has been found that apparently healthy children with no clinical or laboratory evidence of disease, but born of mothers who have been infected, would have a positive Wassermann in the later months of the first year. Therefore, in the best interests of the child, immediate treatment should be instituted if there is a definite history of infection in the mother or if her Wassermann reaction is positive, irrespective of the absence of clinical or laboratory evidence in the infant.

DR. TYSON (in closing): While we use a four-hour feeding schedule at the Philadelphia Lying-in Hospital for the newborn, we do not hold to this as a hard and fast rule. Delicate babies, very small babies, and those who do not do well on the four-hour schedule are immediately switched to the three-hour or two-hour feeding schedule, as seems advisable.

TUBERCULOSIS IN GENERAL PRACTICE*

W. P. BROWN, M.D.†
PHILADELPHIA, PA.

At first thought, the repeated declines in the death rate from tuberculosis would indicate that stress on this disease is now unnecessary. One senses that tuberculosis is encountered rather less than formerly in daily medical practice. Whatever our impressions on these points, there are two very good reasons for a new emphasis on search for tuberculosis in the differential diagnosis of each case of obscure or chronic disability. The prime reason is that this disease continues to be the leader as a cause of chronic illness and death for those in the productive years of life. In Pennsylvania, in 1926, tuberculosis caused 4,383 deaths in those between 15 and 44 years of age, while the present leading cause of death, heart disease, claimed only 2,350 persons of these ages. Second, the chronic character of tuberculosis with dangerous periods of semiconvalescence and the lack of clear-cut symptoms call for continued care in diagnostic study.

The disease is only slightly less deadly than formerly in those moderately affected; hence the decrease in the occurrence of the disease should only spur us on to detect the lesion early, to protect our client's families from massive infection within the household, and to institute early treatment.

PREVALENCE OF ACTIVE TUBERCULOSIS

Attention is called to some careful surveys recently made in near-by counties. These are case-assembling surveys compiled from cases already known either to practitioners, hospitals, or clinics. The surveys can be applied as yardsticks to each community.

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*Read before Schuylkill County Medical Society, Pottsville, Pa., February 7, 1928.

†Medical Secretary, Pennsylvania Tuberculosis Society.

County	Population	Known Tuberculosis (Active & Inactive)		Known Active Tuberculosis	
		Cases	Rate per 100,000	Cases	Rate per 100,000
Cumberland	60,000	450	710	149	245
Fayette	200,000	979	490	386	193
Cattaraugus ...	70,000	579	825	216	310

In applying these figures to such a county as Schuylkill it is important to recall that no special case-finding clinics were held in Cumberland or Fayette Counties. The rates per 100,000 represent cases known through the ordinary medical sources of an average county. On such a basis, Schuylkill County, population 217,000, has a total of 1,300 cases, of which 450 are active tuberculosis readily recognized upon medical examination.

The total of 450 would be increased radically if a thorough case-finding effort were established and systematically carried on. Such an effort in a near-by rural county in New York (Cattaraugus) revealed six active cases per annual death from tuberculosis, or a case rate of 310 per 100,000. On this calculation, Schuylkill County has 670 active cases.

Undetected Tuberculosis

It is reasonable to assume that Schuylkill County has among its inhabitants a total of over 600 readily demonstrable cases of active tuberculosis. Dividing these cases among the 125 general practitioners (of the 175 physicians of the county), it averages more than five cases per doctor.

In addition, ten cases of arrested tuberculosis exist in the practice of each physician in the average community. It must be, then, that some of these are at present incorrectly diagnosed. Also, many are not sufficiently ill to seek the services of the family physician. Public health authorities are emphatic in voicing the danger and the waste in overlooking these borderline cases and the active cases easily recognizable upon physical examination.

It is not far fetched to assume that tuberculosis is a topic of subconscious submergence by the physician. There is a tendency for it to be relegated to the class of improbable causes of chronic illness when the physician is contemplating the underlying disease in each of his patients. If this essay is of utility to the profession, than let its utility comprise a reminder, "suspect tuberculosis" in all obscure or chronic illnesses.

Diagnostic Points

In addition to repeated physical examinations of those suspected of having a tuberculous lesion, observation of temperature, pulse, weight, and constitutional symptoms should continue during the period of study. When the sputum is found to contain tubercle bacilli, the lesion has already progressed rather far. The diagnosis should have been suspected and reached prior to such proof. A series of ten specimens should be searched for bacilli in each suspect.

Recurrent hoarseness, bloodspitting, unaccounted-for pleurisy with effusion, or an ischiorectal abscess should call for a thorough chest examination. Patients with only one suspicious symptom must still be studied rigidly. Night sweats, fatigue, gastric disturbances, evening rise of temperature, loss of weight or appetite should each warrant a thought as to the presence of pulmonary tuberculosis. In the examination of the chest, the presence of fine or medium râles after the diagnostic or expiratory cough is the most significant finding. X-ray of the chest should be utilized as a confirmatory procedure. A film suggestive of tuberculosis in the face of doubtful constitutional symptoms should not at once label the patient tuberculous, but should indicate the advisability of consultation and study by an internist.

Treatment

In view of the paucity of hospital provision for the tuberculous, many will have to remain at home. Each patient, however, should have the advantage of sanatorium training and discipline. The proximity of White Haven Sanatorium should facilitate early treatment for many in Schuylkill County. Continuance of careful supervision is most important for many months after release from hospital routine. A county sanatorium is an institution of utmost value to a county of this size.

For home treatment, isolation of the patient in a well-ventilated room is a fundamental. Children must be rigidly excluded. Separate dishes and silverware must be supplied. An adjoining porch with protection from the wind will be useful in warm weather, while the replacement of windows by canvas will allow adequate air circulation in winter. The patient should not eat with the family. A variety of wholesome foods of generous quantity constitutes the present-day dietary for tuberculosis. A daily rest regimen is essential for patients having evidence of activity of the lesion. Reactivation and relapses after a period of im-

provement are very common, and usually indicate unwise exertion or exercise. A suitable regimen is as follows:

7:00 a.m.	Morning bath.
7:45 a.m.	Breakfast.
8:15 a.m.	Rest in reclining chair.
10:30 a.m.	Bed rest—2 hours.
12:30 p.m.	Dinner.
1:15 p.m.	Rest in reclining chair.
2:30 p.m.	Bed rest—2 hours.
4:30 p.m.	Rest in reclining chair.
6:00 p.m.	Supper.
6:45 p.m.	Rest in reclining chair.
7:30 p.m.	Restful recreation at home.
9:00 p.m.	Bed.

No exercise should be attempted, even slow walking, while there is apparent activity of the disease, such as is manifest by symptoms, positive sputum, temperature rise of over one degree, or accelerated pulse. Slow strolling, on alternate days, may be attempted if rigidly supervised when the lesion is apparently quiescent. If a five-minute exercise dosage at 8:30 a.m. and 2:00 p.m. are not found to cause increased symptoms, longer strolls can be prescribed.

Medicinal control of symptoms is usually helpful, and the standard recommendations such as outlined by the American Medical Association's *Manual of Therapy* are effective. A rest regimen, however, if faithfully followed, is very successful in achieving an abatement of symptoms and ultimate arrest of the lesion.

The public health nurse is of untold help in supervision of the private tuberculosis case, and serves to clarify the intricate details of treatment, to stimulate careful avoidance of harmful practices, and to check up on observance of the physician's directions, as well as serving as a supply for sanitary articles such as gauze and sputum cups. In reporting the tuberculosis case to the health authorities as required by State law, the request, "Please have public health nurse visit this patient," can be added to the report card.

Contacts

Those who have been exposed to a case of tuberculosis should have an examination every six or twelve months. The disease lies dormant for long periods prior to the coming of a debilitated general condition that promotes the actual development of activity in the diseased area. If the periodic health examination is of value to the apparently healthy citizen, then the annual examination is certainly of quadrupled value in the suspected tuberculosis case. Only thus will slight lesions be detected.

Here again the public health nurse is a valued aide in educating the contact and promoting the practice of regular chest examination for the entire family.

Summary

1. Continued prevalence of tuberculosis to the extent of over 300 active cases per 100,000 population is not commonly realized.

2. In the population served by the average practitioner there are at present over 16 cases of tuberculosis of which six are active.

3. Every agency now available in each community should be utilized to control this communicable disease, of such huge economic and social cost.

Case Reports*

STRICTURE OF THE URETER ASSOCIATED WITH LUES

SYLVIA J. ROBERTS, M.D.
HARRISBURG, PA.

Miss C., 19 years of age, was admitted to the hospital with a history of tenderness and pain over the left kidney and extending to the bladder. So far as this case was concerned, the family history was negative. There was no history of venereal disease in the family, and the patient denied genito-urinary infection. Late in September, 1926, she had had an operation for appendicitis with complete removal of the right ovary and partial removal of the left. Her present illness dated from November 1, 1926, when she had some renal pain on the left side. This seemed to grow worse with successive attacks, and was diagnosed as renal colic. She had not had frequent urination, nor passed blood.

Physical examination showed normal conditions except for slight tenderness over the left kidney, also slight tenderness over the ureter low down in the left quadrant. There was no tenderness over the right kidney.

The urine was a pale straw color, with a specific gravity of 1.013. It was amphoteric in reaction, negative to sugar and albumin, and pus and epithelium were present. There was a one-plus Wassermann.

The external genitalia were normal, but there was a purulent and offensive vaginal discharge, a culture of which showed B. coli. The vulvovaginal glands were normal and the urethral orifice normal. The cystoscope passed easily, without pain. The bladder was normal, the trigon slightly injected, and the ureteral openings inflamed, especially the left. Pus was exuding

* Read at the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927. Reports by Drs. Roberts and Adams read before the Section on Urology. Reports by Drs. Boyce, Crawford, Garner, and Klinzing read before the Section on Medicine.

from the left ureter. A No. 6 catheter was passed opposite the second lumbar vertebra, and a specimen of urine taken which showed B. coli. Indigocarmin in the blood stream showed in the left ureter in eight minutes and in the right ureter in three minutes. Twenty c.c. of 12-per-cent sodium iodid was instilled into the pelvis, and a pyelogram taken which showed a stricture in the ureter opposite the second lumbar vertebra. The sodium iodid was withdrawn and acriflavin instilled. The patient was discharged next day.

She was readmitted to the hospital on December 20, 1926. A cystoscope was passed, and a No. 6 catheter passed to the renal pelvis, from which a specimen was taken which still showed B. coli. Acriflavin was instilled, and the patient was discharged next day.

She was again admitted January 8, 1927, still complaining of pain on the left side. A No. 9 catheter was passed, and the specimen showed absence of B. coli. The specific gravity of the urine at this time was 1.019. There was no pus, and few epithelial cells were present. At all times the patient complained of pain, and showed a slight temperature not exceeding 100°. The pulse was 84. She was cystoscoped on January 8th, as her family physician thought the left kidney should be removed. Both ureters were catheterized and two specimens taken from each. The second specimen from each catheterization was cultured, and showed no infection. A renal-function test was made, the dye showing in the right ureter in three minutes, and in the left in four minutes. Renal efficiency was estimated at 80 per cent.

As pain was still present, considering the one-plus Wassermann, I decided to try antiluetic treatment. This was begun on January 21, 1927. Sulpharsphenamin was given at intervals of four to six days, and after the third treatment the patient returned home completely relieved of pain.

URINARY OBSTRUCTION CAUSED BY DISTENDED SIGMOID ASSOCIATED WITH IMPERFORATE ANUS

E. H. ADAMS, M.D.
DANVILLE, PA.

The patient was an adult male, aged 44, who came to the hospital complaining of incontinence of urine. For the past year he had been having increasing difficulty in urinating. About three weeks before admission this difficulty become so great that he consulted a doctor, who catheterized him. The doctor estimated the quantity withdrawn at about 2,000 c.c. His trouble was not improved following this, and for the past two weeks he had not been able to control his bladder, and had been voiding small amounts almost constantly.

He had always been fairly healthy, and never had any serious illness, but from childhood he had never had a satisfactory bowel movement. His bowels never moved unless he had diarrhea, and then the excretion came away in a very small ribbonlike mass. He had resorted to cathartics constantly, and these gave him severe abdominal cramps. For the past five years his abdomen had been getting more prominent, and he had had some abdominal pain. He frequently went a month without passing any fecal matter. This had been growing worse for the past two years.

Physical examination showed a well-developed, well-nourished man, apparently about the stated age. He had rather a sallow complexion, and looked a bit anemic. His teeth were in very poor condition, and there was considerable gingival infection. The heart and lungs were normal, the blood pressure 120/70. The entire abdomen was much distended and there was a definite tumefaction extending half way between the umbilicus and the xyphoid which had a general spherical outline suggesting the bladder. This area was flat on percussion. Extending from the right side, lateral to this mass, and going over the upper portion and then down the left side of it was a mass which had a doughy feel and was dull to percussion. This had the general outline of a distended cecum, and an ascending, transverse, and descending colon. The genitalia were normal.

On attempting to do a rectal examination, it was found that, instead of a normal rectum, there was a small sinus near the perineoscrotal junction, and no evidence of an anus. This tract was so small that it would admit only a probe.

Shortly after admission a rubber catheter was inserted into the bladder, and as the urine began to flow the spherical mass began to decrease in size. Following this, the bladder was gradually decompressed, and at the end of six days was entirely emptied. The remaining mass was then much more definite, and with the finding of an abnormal rectum, it was concluded that this was caused by impacted fecal contents filling the entire large bowel.

Ten days after admission a plastic operation was done on the anus. There proved to be a fibrous membrane which completely covered the anus, and when it was removed a fairly normal anus was revealed. Examination then revealed that the rectum was filled with a very hard impaction. As much of this as possible was broken up by digital manipulation. During a period of six weeks, by the aid of digital manipulation and

hydrogen-peroxid injections, together with mineral oil and a special diet, the mass was entirely removed. When the patient was discharged he was having a daily bowel movement. Fluoroscopic examination of the colon showed no obstruction or evidence of retained fecal matter, but considerable dilatation of the large bowel. The patient was kept under observation for several months, and with the aid of mineral oil the bowels continued to move daily, and he felt much improved in general health.

This is evidently an example of a greatly distended sigmoid filling the pelvis, and by pressure on the neck of the bladder producing urinary obstruction.

CHRONIC ENDOCARDITIS

JOHN W. BOYCE, M.D.
PITTSBURGH, PA.

Finding a heart lesion, especially of rheumatic type, we assume that it has been produced by a previous acute endocarditis. This is not always true. True chronic endocarditis could never be diagnosed at any particular point in time, but lesions may be observed to develop through a course of years with no acute stage.

CASE 1. J. D., a dentist, was rejected for life insurance over twenty years ago because of a soft systolic murmur at the apex which I was satisfied was functional because there was no enlargement of the heart. I have seen him at intervals since for health and insurance examinations. His murmur gradually grew louder and was heard over a larger area. His heart shadow has steadily increased in size faster than his increase in weight would account for. He now has a definitely enlarged heart and all the classic signs of mitral regurgitation. In the twenty years there has been no acute illness, his blood pressure was always normal, his urine free from albumin. His personal and marital history excludes syphilis. By exclusion we must rate his lesion as of rheumatic type.

CASE 2. In 1911 I saw Miss H. F. in consultation during a spectacular acute illness without rise of temperature. Some symptoms suggested neurosis, and she seemed definitely benefited by large doses of bromid. But she had orthopnea, exertion dyspnea, occasional cyanosis, and a pulse ranging from 32 to 60—too variable for a classic case of heart block. I did not make a diagnosis but felt that some grave myocardial lesion was present. Recovery was so prompt and perfect as to throw doubt on this opinion.

Four years later she had a slight but persistent cough which led to several careful chest examinations. I have no note in regard to the heart, but it is practically certain that I listened to it, and absolutely certain that I fluoroscoped it without detecting anything abnormal. Since that time the patient has worked hard and steadily, showing unusual strength and activity. She made an easy recovery several years ago from a pneumonia of moderate severity, and from some chronic throat irritation for which tonsillectomy was advised.

Routine examination this year shows the typical signs of double mitral lesion. In this case it is not impossible that the pneumococcus caused a brief simple endocarditis, though it rarely does so; or the illness diagnosed pneumonia may have been an acute simple rheumatic endocarditis with lung infarct. I am disposed to classify this, however, as a chronic endocarditis case due to tonsillar infection. Despite the negative examination in 1915, I think there was some organic disturbance of the heart in 1911.

CASE 3. W. J. H. was brought to me by Dr. Bremer in September, 1922, complaining of symptoms that I classify as "nervous dyspepsia" since they related to the digestive function and I thought they were psychic in origin. Dr. Bremer was dissatisfied with this diagnosis because of a blood pressure of 160/100 which he considered inconsistent with purely functional trouble. As against that I urged that there was no other physical sign of organic trouble and that, in particular, there was no enlargement or relaxation of the heart. The shadow measured 5.25 across, whereas, the way I take the measurements, normals with his size of chest varied from 5.40 to 6.15.

In December, 1926, Dr. Bremer arranged for a follow-up interview, when the following history was obtained: The patient had kept to the regimen advised by me for six months without benefit. He then began to study the matter for himself, and concluded that what he needed was a "cleansing of his whole system." He found on trial that the only substance in this complex universe that would accomplish that laudable purpose was Rabona—concerning which I know nothing further. He took this, with the result of a complete cure which he described rather enthusiastically. For some reason about which he is rather vague, he had also been eating large quantities of yeast. As a result, he had been for several years a self-sustaining and indeed contributing member of society. On examination, a loud diastolic murmur to the left of the sternum could not be overlooked. The shadow had increased to six inches—still within my range of normal, but too rapid an increase.

This case falls presumably into the class of hypertensive diseases in which the gradual development of a distorted valve without acute inflammatory onset is more commonly recognized. The most interesting point is that a case of aortic regurgitation showed the characteristic increase of pulse pressure before the murmur became audible.

CASE 4. M. M. was seen in consultation in August, 1926, during a febrile illness of nine days' duration. His brother had died a few years before of subacute bacterial endocarditis, and the mother recognized the onset as similar. There was a loud systolic and fainter diastolic murmur which, so far as the family physician knew, was now heard for the first time. Even after his prompt recovery excluded a streptococcus viridans invasion, the case might very well have ranked as an acute endocarditis.

I happened to know that in September, 1925, he had been excluded from the gymnasium at Pitt because of a faint systolic murmur at the apex and an excessive pulse acceleration on slight exercise. He had come to my office shortly after, wildly excited and in my opinion needing psychic treatment more than any other. I was compelled to acquiesce in the decision of the University medical examiners because, in addition to the physical signs (to which I attached very little importance), the heart shadow, though barely beyond normal limits in size, had the relaxed baggy outline of dilatation. I considered the case essentially psychic, but had sufficient fear of myocardial impairment to advise

against exercise. Reëxamination by Dr. Frost in December of the same year showed good myocardial tone but a distant diastolic murmur in the aortic area, and the blood pressure was 128/40.

This boy's aortic regurgitation, therefore, was not caused by an acute endocarditis in August, 1926, but began as a chronic process during the previous year, and was attended at first by symptoms that might have been purely functional but so far as they pointed towards organic trouble were suggestive of myocardial and not at all of endocardial disease.

7137 Jenkins Arcade.

PULMONARY ABSCESS

J. SLATER CRAWFORD, M.D.
PITTSBURGH, PA.

A married man, aged 44, railroad clerk, in October, 1925, was attending the World Series when he became moderately ill with chills and fever which lasted for nine or ten days. A cough of a dry, unproductive nature developed four days after the beginning of this illness, and continued through to recovery. From November 1, 1925, ten days after the initial symptoms, he continued in fair health, being at his work until August 23, 1926, when chilliness and fever returned. This was ten months after the initiation of his first illness. From this date to October 11th, when he was referred, there were intervals of five to ten days in which no chilliness or elevation of temperature were present, but these symptoms would return periodically, accompanied with night sweats.

When I first saw the patient his general physical examination was negative except for the lungs. His temperature was normal, Tallqvist reading 95, appetite normal, sleep disturbed, and he felt rather weak but not very ill. Lung examination was negative except for moderate dullness and diminished breathing in the right lower lobe posteriorly. This area, not well marked-out or defined, was suggestive of a thickened pleura or a partially fibrosed lung. The fluoroscope and x-ray films showed moderate density, but were of no further aid in diagnosis. Sputum was difficult to obtain, and was negative for tubercle bacilli. A normal differential blood count on September 9th was reported, but at the patient's second visit, with a temperature of 100°, his white count was 18,000.

On October 18th, being convinced that there was circumscribed pus in the pleura or lung, an exploratory puncture was done, first for pleuritic pus and then for localized pulmonary pus. Although a four-inch needle was used and three punctures were made, the result was negative except that in sound lung the needle should have shown several drops of frothy blood, which was absent; also, resistance seemed relatively more marked.

The diagnosis still not being made, two days later a consultation was held with Dr. I. H. Alexander, who entertained the same opinion, that we were dealing with a pulmonary abscess.

On October 23d, deep exploratory puncture was again done with no results. On November 4th, the patient was sent to Mercy Hospital. Two days after admission, after further study and more x-ray films, two additional exploratory punctures were made without results. Further observation of the case was continued for ten days, when the conclusion was reached that exploratory resection was justifiable.

On November 30th, Dr. J. P. Griffith resected about one and a half inches of the seventh and eighth ribs in the midscapular line. He freed some pleuritic adhesions, noted an opaque spot on the visceral pleura, stitched the parietal pleura to the wound edge. inserted a cigarette drain in the upper angle against the visceral pleura, and closed the wound. This was intended as the first stage of the operation for what was now more certainly a lung abscess, as this opaque spot was strongly suggestive. The second stage was to be done in about ten days, after the opening was thoroughly walled off. On the ninth day the dressings were found to be pus soaked, making the second-stage operation unnecessary. The patient made a good recovery, having, as would be expected, a permanent fibrosed area—a kindly condition both before and after operation.

As etiologic factors, pulmonary infarct and tuberculosis can be ruled out. Blood-stream or lymphatic deposit deserves consideration, but it would seem that pneumonitis, occurring over one year previous to the acute systemic symptoms, would be the most rational conclusion.

There may be a difference of opinion as to good medical judgment in the employment of surgical exploration, but when confronted with a situation of this kind, I believe we should not hesitate to place a patient in the hands of a skillful chest surgeon who will employ a two-stage operation.

614 Jenkins Building.

ABSTRACT OF DISCUSSION

Henry Klinzing, M.D. (Pittsburgh, Pa.): One would think that there would always be some evidence of lung abscess on the x-ray plate, but I too have seen such a case in which the x-ray report was negative. The cavity was very small, but on operation a few weeks later the abscess was found and drained, and the patient recovered.

In many of these cases that do not have involvement close to the pleura there may be no subjective symptom

of pain. However, in addition to the usual findings with the stethoscope, a small area of pain situated immediately over the site of the cavity can often be elicited by percussion. Why percussion pains should be present when the abscess is in the lung tissue is difficult to understand, unless the pathology was close to the pleural surface in the cases in which this sign was observed.

ACUTE PANCREATITIS HEMORRHAGICA

ALBERT R. GARNER, M.D.
NORRISTOWN, PA.

CASE 1. A young woman of 23, happily married, and mother of a three-months'-old infant, with good family history and good personal history except for a tendency to fatness and persistent hyperemesis gravidarum, had a severe diffuse pain in the abdomen November 16, 1926, and again on December 18th. After breakfast on the 19th, she suffered a third attack and fainted. The pain and vomiting increased, the pulse was 130, and temperature 96°.

Consultation was advised, her pelvis was found negative, and she was removed at once to Montgomery Hospital, Norristown. The pain did not seem to be localized, but extended from the pelvis to the epigastrium, although she appeared to be very slightly more sensitive to the left and above the umbilicus. There was no sugar in the urine, but there was a trace of albumin, hyaline and granular casts, and a few leukocytes. The hemoglobin was 89 per cent, the white blood corpuscles numbered 24,200, and the red blood corpuscles 4,270,000. The pulse was growing weaker, tympanites began increasing rapidly, and additional consultants were called in.

The patient was typed for transfusion and immediately operated upon. On the operating table her pulse was absent or only occasional beats were perceptible. Both lower and upper incisions were made. The peritoneum was full of fat necroses, and there were nearly two quarts of dark-brown fluid. There was a hemorrhage in the gastric omentum, and the pancreas was enlarged and blood and clots were exuding from the entire surface. Rubber drainage tubes were inserted, and in fourteen to fifteen hours a pulse of 140 to 150 could be counted.

From time to time the patient vomited yellow fluid, finally changing to dark green. Her stomach was washed out several times with soda water, beginning on December 24th. Insulin, glucose, and stimulants were given as required. There was much pus and sloughing from the drainage. On the 21st and 23d the urine showed traces of albumin and sugar, but there was no sugar after the 24th. On the 29th the blood sugar was 114 mg. per 100 c. c., and the white blood count was 14,400. On January 3d. fecal examination showed better digestion and an acid reaction, and the feces contained few red blood corpuscles. The first two weeks after operation there were many loose, brown bowel movements. There was much backache from the third to the fifth week when drainage was not free enough, and some little irritation of the bladder at times.

The patient left the hospital in five weeks, taking her nurse with her, as her wound was being dressed four to five times daily. On February 2d, six weeks after the operation, laboratory examination showed the hemoglobin to be 69 per cent, red blood corpuscles 3,770,000, white blood corpuscles 10,000. In the urine there was only a slight trace of albumin, a few white blood corpuscles, and no casts. The blood sugar was 118 mg. per 100 c.c. Laboratory analysis of the bile-stained vomitus showed the peptic digestion poor; of the duodenal contents, showed the tryptic digestion good and the amylolytic digestion poor; of the discharge from the wound, showed the tryptic digestion poor and the amylolytic digestion good.

The patient did poorly on a carbohydrate-free diet, growing weak and thin, while the blood sugar went up 150 mg. per 100 c.c. By May 5th the wound was entirely closed and the patient was apparently well and eating normally. There has not been any sugar in the urine, and the blood sugar is still normal. The patient is slightly anemic.

Case 2. On February 13th the patient, a business man aged 54, had a severe deep-seated epigastric pain, with vomiting and fainting, and was admitted to the Montgomery Hospital. The symptoms pointed to a ruptured gall bladder, and included shock, a temperature of 97.4°, pulse rate of 106, and respiratory rate of 24.

On operation, the gall bladder was found to be thickened and shrunken, the peritoneum was covered with fat necroses, there was some dark fluid in the abdominal cavity, and there was a large rent in the head of the pancreas with blood oozing from it and filled with clots of blood. The red blood count was 5,450,000 and the white count 20,300, polynuclears 92 per cent, and hemoglobin 85 per cent. The blood sugar was 137 mg. per 100 c.c. of blood. There was a trace of albumin in the urine, and hyaline and granular casts. The blood sugar reached 182 mg. per 100 c.c. at one time, and remained over 150 most of the time. There was no sugar in the urine at any time. Insulin, glucose, and stimulants were given as required. The patient left the hospital

March 17th, four weeks and three days after the attack, with the wound practically closed, and doing very well.

He had previously had occasional slight gastric disturbances (fullness after eating), and three months previous had a severe pain in the epigastrium for an hour and a half, with soreness lasting twenty-four hours, after which he was all right.

626 DeKalb Street.

PANCREATIC CYST

HENRY KLINZING, M.D.
PITTSBURGH, PA.

During the past few years, the pancreas seems to have received considerable attention in medical literature. This may or may not be due to the influence upon the thoughts of the medical profession of Banting's introduction of insulin for diabetes, but it does remain a fact, no doubt, that this gland is given more consideration in the differential diagnosis of pathologic conditions of the upper abdomen. Although pancreatitis is fairly common, pancreatic cysts still remain among the more uncommon pathologic findings.

The case I wish to present is that of a man aged 51 years, white, occupation salesman. He entered the South Side Hospital October 10, 1926, complaining of pain accompanied by gaseous distention in the upper abdomen, of one day's duration. There was no history of injury. He complained of nausea, but vomited only once following the taking of medicine. He complained of some precordial distress. Enemas failed to relieve the gaseous distention. His previous history had been apparently negative, with the exception of typhoid fever as a child, and within the past two years more or less gaseous disturbance in the upper abdomen, accompanied by slight colic pains and drowsiness after eating. The family history is essentially negative.

Physical examination showed a middle-aged man, well nourished and well developed, in a semireclining position in bed, with apparent abdominal distress. The eyes, ears, nose, and throat showed nothing abnormal, with the exception of tonsillar adenopathy. The chest was well-padded, lungs clear throughout, and no râles were heard. The heart-muscle sounds were normal, and there were no murmurs. The aortic second sound was slightly accentuated over the pulmonic second, with a blood pressure of 140/112. The abdomen was slightly distended, especially above the umbilicus. There was tenderness throughout, but no marked rigidity. The liver and spleen could not be outlined. There was no dullness in the flanks. Peristalsis was present. A provisional diagnosis of a chronic pancreatitis, with the possibility of a tuberculous peritonitis and chronic cholecystitis, was made.

Urinary findings, of which there were numerous examinations made, showed that about fifty per cent of the specimens were alkaline, and the others acid, with a specific gravity ranging from 1,001 to 1,020. There seemed to be occasional faint traces of albumin. At no time was there sugar present. Microscopically, there was nothing to suggest nephritis.

Blood examination showed: hemoglobin 80 per cent; red blood corpuscles 4,300,000; white blood corpuscles 14,000; differential count normal; icterus index 8.8; van den Bergh direct, negative; indirect, slightly positive; urobilin negative. The blood chemistry on admission showed: sugar, 181 mg. per 100 c.c. of blood; nonprotein nitrogen, 24 mg.; creatinin, 1.8 mg. Later examinations of the blood showed practically the same findings, with the exception of a slight decrease in the sugar, at one time being 166 and at another 125 mg. The stools were negative for blood, parasites, and ova, with the exception of the examination on October 18th, when a floccular jelly-like mass, semitranslucent in appearance, bile stained, and containing pus cells was passed. Subsequent stool examinations on November 21st and January 4th were apparently normal. The blood Wassermann was negative.

The temperature ranged from admission until November 10th between 100° and 102°, with a pulse between 100 and 140. During this time the patient seemed to be desperately ill, although not in great pain. For the first two weeks the abdomen seemed to be decreasing in size, but there was a gradual appearance of a tumorlike mass, which was round and globular just to the left of the median line in the epigastric region. This mass was apparently movable, smooth, elicited no extra pain on palpation, and gradually increased slightly in size. There was a tympanitic area above the mass, apparently stomach. Subsequently the mass was felt also to the right of the median line and below the umbilicus. No evidence of fluid was elicited. At this time the patient was nauseated, vomiting some greenish fluid, and his general condition was poor.

The diagnosis was apparently one of pancreatic cyst, and the patient was taken to the operating room, and the abdomen opened by Dr. M. A. Bradford, with the following findings: a 3½-inch incision was made through the left rectus muscle between the umbilicus and ensiform cartilage over the prominent part of the tumor. There were numerous adhesions of the viscera to the peritoneum. An opening was made through the gastrocolic omentum, and the cyst cavity entered, evacuating about one gallon of fluid, and the cyst walls were sutured to the wound borders. Drainage tubes were inserted into the cavity and brought out at the upper end of the wound. The incision was closed with chromic catgut and through-and-through sutures, and the skin was closed and covered with vaseline gauze.

There were numerous small calcified bodies on the omentum and colon, which from the macroscopic appearance seemed like small chalk-white spots, simulating tubercles. Microscopic examination, however, showed fat necrosis and associated chronic inflammatory reaction. The fluid removed from the cyst was of a reddish-brown color. Direct smears showed many red blood cells, occasional leukocytes, but no organisms. Cultures remained sterile after forty-eight hours, and contained the usual pancreatic ferments.

The subsequent course of the case was rather stormy for the next thirty days, when gradually convalescence took place, but with continued drainage from the incision until May 13th, when the patient was discharged in apparently good shape. The drainage at that time showed a turbid fluid with a specific gravity of 1.005, alkaline in reaction, negative for sugar, but with a heavy trace of albumin. The smears showed many Gram-positive diplococci, but were negative for amylase and trypsin. Microscopically, there were many degenerated polynuclear leukocytes (98 per cent); 2 per cent of small lymphocytes, but no endothelial or other cell types.

The etiology in this case, as is often the case in pancreatic cysts, was obscure. There was no history of trauma, a history that is often obtained in pseudocysts, nor was there a section made of the cyst wall for microscopic examination to prove definitely whether there was the epithelial lining of a retention cyst, or simply the connective tissue of a pseudocyst. There was no history of obstruction of the duct from gall stones; but the history of two years of upper-abdominal distress, with vague pains and distention, leads one to suppose that there must have been a chronic cholecystitis and chronic pancreatitis.

The treatment of these cases is surgical, and probably drainage is the best procedure unless the entire sac can be dissected. Drainage was the method used here, and although it persisted for months, the ultimate outcome was favorable, and the man remains well one year later, with no return of the fluid.

1206 May Building.

ABSTRACT OF DISCUSSION

Alfred C. Wood, M.D. (Philadelphia, Pa.): In connection with the reports on pancreatic disease by Drs. Garner and Klinzing, I desire to report the following case: The patient was a man aged 52 whose history showed that for fifteen years he had had attacks of acute abdominal pain which were diagnosed as gall-stone colic and for which he had been given hypodermic injections of morphin. The last attack began just the same as the previous ones, so far as his physicians knew, but it did not respond to the usual treatment.

I saw the patient fifty-odd hours after the inception of the attack. He was very ill, and I thought his condition suggested peritonitis from perforation. An operation was performed, but very little could be done on account of the patient's poor condition, and he survived but a very short time. I was able to secure the pancreas soon after death. The whole gland was involved in the hemorrhagic process. There were a few very small areas of more or less normal pancreatic tissue, but practically the entire gland was infiltrated with blood. The general impression is that in such cases the disease always terminates fatally. In this case there were between twenty and thirty stones in the gall bladder.

Among other points of interest in Dr. Garner's case, I noted that the patient complained of pain in the back after the operation. In the case I am reporting, the patient complained of a "bad pain across the kidneys." This is a suggestive symptom, as in pancreatic disease the pain might well be felt in the back.

A CORRECTION

In the January number of the Atlantic Medical Journal, page 241, the legend under figure 3 of the article by Dr. John D. Garvin should have read: "Cardiospasm after treatment. Film taken two to three minutes after the ingestion of barium."

DIAGNOSTIC STANDARDS OF TUBERCULOSIS

In 1917 a Committee on Diagnostic Standards, organized by the National Tuberculosis Association, set to work to formulate as simply and accurately as possible standards and criteria for the diagnosis of tuberculosis. The seventh edition of *Diagnostic Standards for Pulmonary and Glandular (Hilum) Tuberculosis* was published November, 1926, in booklet form by the Committee, which at present consists of the following: Dr. John A. Smith, Chairman and Secretary, Dr. Fred H. Heise, Dr. Alexius M. Forster, Dr. Henry D. Chadwick, Dr. Clarence L. Hyde, Dr. Walter L. Rathbun and Dr. J. Burns Amberson, Jr. Minimum standards in the diagnosis of pulmonary tuberculosis are listed as follows:

1. When constitutional symptoms and definite past history are absent or slight, there should be demanded definite signs in the lungs, including persistent râles, usually in the upper half of the lung or definite and characteristic parenchymal changes as shown by the x-ray, or the finding of tubercle bacilli. (By "persistent" is meant that the râles must be present after cough at two or more examinations, the patient having been under observation at least one month).

2. In the presence of constitutional symptoms, such as loss of weight and strength, etc., as defined above, there should be demanded some abnormality in the lungs on physical or x-ray examination or both (but not necessarily râles).

3. Usually a process in the upper half of the chest should be considered tuberculous, and a process in the lower half nontuberculous, until the contrary is proved.

4. Hemoptysis or pleurisy with effusion is only presumptive evidence of the disease.

5. Pain in the chest and shoulders, night-sweats, digestive disorders, etc., require careful examination of the lungs for evidence of the disease. The presence of any extrapulmonary tuberculous lesion necessitates careful examination of the lungs. This includes especially fistula in ano, adenitis, joint tuberculosis, etc.

6. In every doubtful case one should demand that the patient be kept under observation and a record kept of pulse, temperature, weight, etc., for at least one month, with repeated sputum examinations, before a definite diagnosis is made. The importance of careful and thorough observation for at least one month is to be emphasized.

7. Tuberculin tests and other special laboratory diagnostic methods are of use only when in the hands of those specially trained and experienced in their interpretation.

The booklet also includes precise definitions of symptoms commonly encountered, classifications of diagnosis according to lesion, and recommendations for the disposition of patients according to stage of disease. *Diagnostic Standards* may be obtained free from the National Tuberculosis Association, 370 Seventh Avenue, New York City.

THE ATLANTIC MEDICAL JOURNAL

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Editorials

A PLAN FOR INCREASING MEMBERSHIP

The Board of Trustees of the Medical Society of the State of Pennsylvania has approved the following plan for a membership campaign in this State:

Letters will soon be sent to all component county societies outlining the plan, and enclosing a list of nonmembers compiled by comparison of the *American Medical Directory* and the State Society membership list. The county societies are asked to censor these lists, delete names of those who would not be acceptable as members, add the names of any omitted from the lists, and return them to the office of the State Society at 230 State St., Harrisburg, Pa.

Sample copies of the Atlantic Medical Journal, each containing a membership blank, will then be sent to all approved nonmembers, together with a letter from the secretary of the State Society inviting the physician to join his county and State Societies. Owing to postal limitations, several months will elapse before all those listed can be reached, and each county society will be notified at the time of mailing sample copies and invitations. It is hoped that all officers and members will join in the campaign by adding a personal invitation to these individuals.

According to the *American Medical Directory*, there are 11,405 physicians in Pennsylvania. Secretary Donaldson reports in this number of the Journal that 7,726 of these were members in 1927. According to these figures, there are 3,679 nonmembers in the State—more than the entire membership in all but six of the 49 state societies of the Union. We ought to have more than a 67 per cent membership, even though many of these nonmembers may be homeopaths, eclectics, retired, or ineligible. This campaign has been inaugurated in the hope that it may assist in reaching those who are still outside the helpful ranks of organized medicine. The coöperation of all members is urged.

A NATION-WIDE CAMPAIGN FOR THE EARLY DIAGNOSIS OF TUBERCULOSIS

During March, 1928, tuberculosis and health associations of the United States, led by the National Tuberculosis Association, will conduct an intensive publicity campaign to emphasize the importance of the early diagnosis of tuberculosis. This disease continues to kill approximately 7,000 persons each year in Pennsylvania. The aim of the campaign is twofold; first, to focus the attention of the public at large upon the danger signals of early tuberculosis, and to urge the people to go to their doctor for examination; and second, to stimulate renewed interest on the part of the medical profession in the recognition of early signs of tuberculosis.

State, county and city tuberculosis and health associations will organize meetings where talks will be given, motion pictures shown, and pamphlets distributed, all emphasizing the importance of early diagnosis. A motion picture for lay audiences to be called "Let Your Doctor Decide," and another for medical groups entitled "The Doctor Decides," will be used in the campaign. All these endeavors are made possible by the annual sale of Christmas seals.

Doctors still report that most cases of tuberculosis seen are in an advanced stage of the disease. A recent census of patients in tuberculosis sanatoria in the United States shows that only 16 per cent are diagnosed as early cases on admission. The physician must bear

in mind the not infrequent development of lesions in the lungs which do not give rise to definite or suspicious clinical symptoms. The necessity of always suspecting tuberculosis, and the importance of complete periodic physical examination of apparently well persons are pointed out. The diagnosis is not easy, and the physical signs may not be readily recognized. In making physical examinations, special attention should be given to ausculation and, above all, to stethoscopic ausculation on inspiration after expiratory cough.

We wish to stress the far-reaching results that will accrue from this campaign, and to urge the coöperation of every physician, as it is not unlikely that a considerable number of their own patients or strangers may come to them for physical examination. When patients do present themselves, the individual should be given careful attention. It is needless to say that this should be done at all times; but more especially should the physician show additional interest in patients coming to him as the result of this campaign, in order that the laity will fully recognize the hearty coöperation of the doctor with the campaign. If the physician recognizes his inability to reach a diagnosis in a tuberculous patient, he should refer the case to one in whom he has confidence for further study. The indigent should be referred to the proper clinic or dispensary for examination. Attention is especially directed to the article on "Tuberculosis in General Practice" which appears in this number of the Journal, and which was written by the medical secretary of the Pennsylvania Tuberculosis Society.

May we urge all physicians to become interested in this intensive campaign, bearing in mind that we should be the leaders, always.

THE OFFICIAL ORGAN OF THE WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCATION

We extend congratulations to the editorial staff upon the appearance of Vol. 1, No. 1, of the *Journal*, the official organ of the Woman's Auxiliary to the American Medical Association. The *Journal* is "dedicated to the members of the American Medical Association who are consecrating their lives to the cause of making our people the healthiest and happiest nation on earth."

The initial number of the *Journal* is presented to the Woman's Auxiliary to the American Medical Association by the Auxiliaries of Texas, and is being sent out so that the members of the various auxiliaries may have some idea of a journal to constitute the official organ of their activities. They are asked the questions, "Do you want a journal as outlined? Shall it be published yearly, quarterly, or monthly?"

The editorial staff is of the opinion that a sufficient number of subscriptions or advertisements would support even a monthly issue. We sincerely trust that the *Journal* will be established as a monthly publication, in order that it may work to the fullest fruition for the best interests of the Woman's Auxiliary to the American Medical Association.

The members of the medical profession should urge their families to give this new enterprise the required support, for "without the recognition by the doctors themselves, it would be impossible to enlist the interest and enthusiastic support of the wives of the medical profession."

HOW IS YOUR ATTENDANCE?

The enterprising editor of a county society bulletin recently published the attendance record of all members of his society. The score runs as follows:

Number of meetings attended	*Number of members in attendance*
0	60
1	26
2	13
3	11
4	9
5	8
6	7
7	6
8	1
9	3
10	6

It is rather appalling that nearly half the members failed to attend a single one of their county society meetings, and that only about a third of them attended more than two meetings. The competition between the many medical meetings is frequently given by members located in large cities as an excuse for frequent absence, but in this particular instance there is only one other competing medical organization, whose meetings alternate with those of the county society. Yet eleven members of both organizations failed to attend a single meeting of either one. The average of the county society attendance was 33, while that for the other organization was 63—a difference accounted for perhaps by the presence of a guest speaker

at the latter meetings. One of the most distressing features of the record is that the absentees number among them some of the most prominent of the county's physicians, including present and former officers of both State and county societies.

Is this condition prevalent in other societies? If so, what is the cause, and what can be done to arouse greater interest in this work so vital to the well-being of the profession? Correspondence on the subject is invited.

THE THREAD OF LIFE IS LENGTHENING

History tells us that the average length of human life in the sixteenth century was less than twenty years, at the close of the eighteenth century it had advanced to thirty-four years, at the end of the nineteenth century it had reached forty-eight, and now, in this twentieth century, the average life span is fifty-eight years. If this increase should continue for the centuries to come, we may hark back into Methuselah's class!

Many reasons may be given for the increase in the length of human life, such as advancing civilization, education, better sanitary laws, better quarantine laws, research, preventive medicine, and periodic health examinations. As it is better to prevent sickness than to cure the patient after he has contracted a preventable disease all forces should be concentrated upon prevention.

Lord Macaulay states that in his day smallpox was always present, filling the churchyards with its dead, tormenting with constant fear all whom it had not yet stricken, leaving on those whose lives it had spared the hideous traces of its power, turning the babe into a changeling at which the mother shuddered, and making the eyes and cheeks of the beloved maiden objects of horror to the young lover. It took the lives of countless thousands, and left to bewail their lot many blind, deaf, crippled, maimed, and disfigured who were permitted to live. What a change has been brought about by vaccination! If Macaulay were to come back, he would surely be surprised at the conditions prevailing now. Smallpox is now one of the rare diseases, and if vaccination were strictly enforced, it would never be heard of. This alone has added years to the average length of life.

The immunizing of children of preschool and school age is another great factor in adding to human life, and we may hope for the day to come when all children will be given this great life-saving remedy, and diphtheria will have taken its flight.

Typhoid fever has had its day. The elimination of carriers, purification of drinking water, and immunization have taken the crown from its head. This has added some years to the stay on earth.

There will be another extension to life when the correct meaning of the periodic health examination is grasped, and its real value is comprehended. It has often been said that people are slow to adopt a good thing which would add years of usefulness, profit, and pleasure, but are always willing to take up some useless fad. Barnum said there is one born every minute. The general adoption of these examinations will take time, but if the medical men keep the matter before the people, more and more they will seek this great opportunity to grow old gracefully, with good health and free from suffering. This will again add to the length of life.

We are amazed when we consider the abuse the human body will endure and yet repair itself. It may be torn almost to shreds, and yet, with half a chance, it will rebuild healthy tissue. No other machine can do this.

With the advance of education and better knowledge of nature's laws, it would not be surprising to find the average length of life reaching the hundred mark in the not distant future, if the toll from the automobile, aeroplane, balloon, and railroads is not too great.

THE EDITOR ASKS YOUR OPINION

Editing, like radio broadcasting, is rather a lonely job. The audience is there, but the performer cannot see it, cannot hear the applause (or lack of it), and cannot read its approval or disapproval by its demeanor. When the listener does not care for a radio program, he tunes in on another that he does like. When the reader does not care for an article, he turns to another. The difference lies in the fact that the radio broadcaster, if popular, will receive hundreds and often thousands of fan letters and telegrams. He can judge his success by his mail response. But the reader seldom bothers to write the editor his approval or disapproval. Such letters are so rare, in fact, that it is an event when they arrive.

Your editorial staff is eager to please you. We have our telephone right beside us all the time, and we anxiously scan the mail for ideas that may be of interest to you. We try to make such personal contacts as we can, hoping to grab some ideas hot off the grid to pass on to you. This is your Journal; we want to make it truly representative of the profession. We want

to give you the newest ideas. We want to make the Journal a medium of exchange for the best minds in medical practice and research. We want to have that human touch. We want to broadcast the inspiration to greater achievements. But we cannot know with any certainty whether we are pleasing our public unless that public will respond to our efforts with criticism or commendation, as it may be deserved.

Your correspondence is invited. Please be sure that your letters will count. It is so easy to feel that the editor is remote and not interested in your problems. But this is not so. The editorial staff is very human, and very eager to know your reaction to our efforts.

For example, we have been running a series of departments for the last two years. Do you like them? Which do you like the better? Do you find the "Medical News" of interest? Have you shared the Auxiliary Department with your wife? Does she enjoy it, and what would she most like to see printed there? Do you like the type of editorials we are running? What comments have you to make about the articles we publish? Have you noticed that the amount of advertising is increasing? Do you find it helpful to you? Do you ever use the classified ads.? The number of replies to them passing through the Journal office is very encouraging, but they could be many times as useful to our members if they would get the "classified habit."

When passing through Harrisburg, drop in at the Journal office. It is your property, and we shall be glad to welcome you and get acquainted. And if you have any suggestions, be sure to pass them along. We can use them in our business.

BLOOD PRESSURE

The interest in and the literature of blood pressure, have both reached a very high peak. With some patients it has become an obsession. At bridge parties, blood pressure, expressed in figures, is a choice topic of conversation. It is very essential that the laity, and many of our profession, be made to realize that the value of a blood-pressure reading depends upon the interpretation placed upon it, and that not any value is attached to the figures alone. Just as in an x-ray plate, its worth depends entirely upon its interpretation.

In the great majority of cases, blood-pressure observations are of no practical value, but they are of very great assistance in certain cases, and it is in them they should be used. The blood pressure may be an aid in diagnosis, but its chief value lies in the lead that it gives us in our treatment, especially when we are using drugs with which to increase or decrease the blood pressure. In all cases, however, *both the systolic and the diastolic pressures should be taken.*

PHYSICAL FINDINGS IN MENTAL PATIENTS

While the physical condition of the mental patient has always been considered to a certain degree, the past fifteen years have witnessed the placing of greater emphasis on the thorough physical examination of these patients than ever before. No greater proof can be found than the increased activities of the mental hospitals manifested in clinicopathologic services, physical-diagnostic clinics, surgical and treatment agencies. While strides in knowledge of focal infection may have stimulated this healthful growth, due credit should be given to the progressive mental-hospital personnel, who realize that a mental patient is a sick patient and that their professional obligation does not end with a mere grouping of psychic reactions into a pigeonhole classification under the heading of a specific psychosis. The medical staff of a mental hospital cannot be considered thorough and efficient unless they view their patients from all angles: the physical, psychogenetic, and hereditary influences—physical here implying not only the recognized diagnostic procedures, but including the services of the clinicopathologist, the specialist, and the x-ray if necessary.

One recalls the criticism of the medical services of mental hospitals in the days gone by, many of which had a basis of truth, to the effect that cases were not thoroughly studied from all angles and that negative findings did not preclude the presence of physical disease. It is very doubtful whether the mental-hospital physician can answer this in complete rebuttal. In the first place, approximately 15 to 20 per cent of the cases are so disturbed and noncoöperative that a satisfactory examination is impossible, and a physical disease may run its course during such disturbed periods with no residuals at such time as the examination can finally be made. Furthermore, examination of a mental patient presents difficulties not generally experienced in other types of patients. For example, from reports obtained, the examination of the lungs is far from satisfactory despite the aid of the x-ray. One can, therefore, readily appreciate the necessity of a thorough examination of the patient by his family physician early in the disease before hospitalization.

Despite these handicaps, within the next few years we shall be able to deduce most valuable

information as to the presence of physical disease in mental patients and the relationship of such diseases to the causes of the psychoses. That such physical findings are now noted with more frequency than the statistics of years ago reveal can not be doubted. This is indeed healthful progress, and while we are not in a position truly to evalue the importance of these findings, that is, whether or not the correction of a physical finding *per se* cures the psychosis, we are convinced that relieving any mental patient of diseased physical processes places his combative and reconstructive forces in a better position to bring about and speed up his mental restoration.

MEDICAL ETHICS AGAIN

It has been the custom recently for the president-elect of the American Medical Association to announce some outstanding feature which will be stressed during his administration.

President Jabez N. Jackson of the American Medical Association emphasized the need for a better observance of the principles of medical ethics. As a result of his endeavors, the Board of Trustees of the American Medical Association requested the Council on Medical Education and Hospitals to outline a plan of lectures on medical ethics, to be recommended to the medical schools, and to constitute an obligatory course.

It is necessary that medical students receive a well-organized course of lectures on this very vital subject, to serve as a guide in the practice of medicine. Some of the medical schools, however, realizing the vast import of this matter, have been giving a systematic course of lectures on medical ethics for several years.

But there is much to be done properly to call to the attention of many in the practice of medicine their improper observance of the principles of medical ethics, and no doubt it was the too frequent lack of observance on the part of our medical brethren that aroused President Jackson to the need of an organized crusade in an endeavor to correct it.

We have previously called attention in our editorial columns to the fact that too often suits have been instituted for alleged malpractice based upon the comments and opinions given by physicians in criticism of the medical attendant who was in charge of the patient at the time. We have been advised of this in numerous cases by the attorneys bringing suit.

A recent instance may be cited of a primipara in charge of the attending physician, a general practitioner, who explained to the husband the difficulties experienced in the delivery and the reason why the baby was born dead. The husband was not satisfied and called at the office of an obstetrician to seek his opinion, giving the details as related to him. The obstetrician stated that he saw no reason why the baby should not have been born alive. The husband paid the $20 office fee exacted, and deemed it only fair to seek another opinion. He consulted another obstetrician, who gave a similar opinion.

It seems almost unbelievable that any physician would sell, let alone venture, any opinion in this manner. Here is a layman, with the mental anguish of losing his firstborn, due to what he thought was faulty obstetrics, consulting two obstetricians, who based their opinions upon the statements made by this layman in an overwrought frame of mind. Neither obstetrician had heard the details from the medical attendant. Such action on the part of any physician cannot be too severely condemned.

It would seem justifiable, in any instance of this kind, when the charges are proved to be true, that said physician, if a member of a county medical society, should be made to show cause why he should not be dropped from membership. It may be that pitiless publicity may force a better observance of the principles of medical ethics.

MORAL FACTORS AS THE CAUSE OF DISEASES

Inasmuch as the physician's professional work carries him beyond the pale of bacteriology and pathology, he is in an excellent position to observe particularly the shortcomings of humanity. Surely no one comes in closer contact with the results of violation of moral laws than the physician, minister, and priest.

Diseases directly responsible to a violation of these laws come particularly within the classification of venereal infections. For years the causes of gonorrhea and syphilis have been known to the profession and the laity. Barring that relatively small percentage of so-called innocent infection (and in this we do not include husband-and-wife infection), the fountain source springs and continues from a violation of a moral law as ancient as the scriptures themselves. Despite this knowledge, by the roadside we watch the silent procession come and go, a procession of blind children, invalided women, the tabetic shamble, and the grandiose paretic on the road to hospitalization and death.

The public-health officer is to be commended on the publicity he has given and is still giving concerning the causes and ravages of these endless diseases, but as we ponder on this great group of offenders and subsequent sufferers, each

year coming with its increasing number, we wonder if our duty as physicians merely ends with diagnosis and treatment, or shall we approach the problem from a somewhat different angle, and lend our concerted efforts in an endeavor to build a better and stronger moral fabric in the people of the world?

THE M.D. DEGREE

Every year men and women by the thousands throughout the land, either through constant academic training or individual achievement, receive many and varied types of degrees. These degrees may differ in evaluation, but the worth of the degree of Doctor of Medicine is beyond question.

Many years ago the possessor of this degree won the plaudits of the public through humanitarian achievements. His virtues were celebrated in words tinged with emotion dealing with his personal sacrifices in treating a sick and suffering humanity. The family doctor whom the world extols, for whom the people yearn, and whose successor no one seems willing to become, represented a living example of this particular type of physician. The world cared little for his knowledge in other fields; and his financial failures or the fact that perennially his name appeared on the sucker list of fake promoters, cast no shadow of doubt on the rôle he played in the home, at the sick bed, and in the hearts of living men and women.

Within recent years, to be a doctor of medicine means a great deal. Blessed with the honorable tradition of his peers, keenly appreciative of his part in the prevention and cure of disease, a physician's medical and scientific training places him in a position to understand to a great degree various phenomena in the social, economic, philosophic, and scientific world. This is made possible through the academic requirements of his premedical course and the highly scientific nature of his medical studies, which implies a knowledge of embryology, anatomy, physiology, physics, chemistry, hygiene, social science, health, and disease.

Such a training is reflected in those prominent in the medical world. We see these men eminently successful in their respective specialties. The greater they are the more it seems they have the time to make contributions to the civic life of the communities in which they live. Their training makes possible easy contact with the various civic clubs, fraternal organizations, school boards, churches, Sunday schools, social-welfare agencies, scientific organizations, the banking world, state and national governments, where their membership is welcomed and appreciated. Fortunate indeed is the physician whose training enables him to divert to wholesome usefulness his psychologic inherent, purposive activity and enables him to adapt himself to an ever-changing environment and new situations. A community is fortunate to have him in its midst.

All of these activities are open to the old and recent graduate in medicine. It is true that the latter is in but a chrysalis state which requires time and study for its full development and perfection, but here is a medium through which his developing mind may grow in knowledge and understanding. To some there may come periods when there is a full realization as to their unwise choice and their failure physically and mentally in the pursuit of medical practice; but even then, they may soothe their disappointment by the consolation, in practice or out, that they have attained a background of knowledge which enables them at least to understand life, its mechanisms, its purposes, and the adaptation to the great setting which surrounds it. These are the beautiful vistas of a degree in medicine. May we always hold them sacred and ever keep them inviolate.

SUNDAY MEDICINE

In previous years the occupations followed on Sundays varied with individual needs. Some persons preferred religious worship, some rest, some relaxation, some sleep, and some indoor or outdoor diversions; those unwell adhered strictly to their doctors' orders, while the Saturday-night sojourners employed immediate palliative remedies.

Within recent years, however, the public is enjoying a new prescription, and that is Sunday medicine, covering many and varied ills, and appearing in the Sunday-magazine section of the American press. For this space, interest, and wholeheartedness on the part of the press the American people are duly grateful. To the authors also should go thanks as a partial recompense for that humiliation which comes to ethical men on seeing their pictures, names, and subjects in flaring headlines to the effect that the great "Doctor So-and-So" herein explains why women leave home, or why parents should be spanked, or why some people can't make the grade in life.

That the motives sponsoring such articles are above reproach cannot be questioned, but it certainly places the doctor of medicine in an embar-

rassing light with his colleagues and the public, for one well versed in medical tradition is prone to place these articles on the plane of quackery and charlatanism. Such a situation is unfortunate. Medicine needs the press and the press needs medical information.

Is it not possible for the House of Delegates of the American Medical Association to appoint a publicity committee to draft any articles needed for the public dealing with health matters and release them in such quantities and at such times as either the press or the medical powers deem necessary? Such an arrangement would represent organized medicine, and individual advertising would be eliminated. Or in the event that certain public-health agencies were desirous of acquainting the public with health matters, they could issue such news articles bearing the name of the Association or public-health agency interested. Individual names to such articles on Sunday medicine are obnoxious to Pennsylvania physicians.

JOTS AND TITTLES

Clinical Laboratory Service in the United States

Among the many interesting communications received at the Journal office is a statement by the Council on Medical Education and Hospitals which we regret that lack of space prevents reprinting entire. Events leading up to the effort to standardize laboratory practice are outlined—the drift towards commercialism, increasing control of lay technicians, the need of restoring clinical pathology to its rightful place as a medical specialty. In 1923, coöperation was brought about between the laboratory and medical organizations which led to the appointment of three committees representing the American Chemical Society, the American Association of Pathologists and Bacteriologists, and the Council on Medical Education and Hospitals. At a joint meeting, certain basic principles underlying sound laboratory service were agreed upon, and the Council was assigned to conduct the work. The first steps were: (a) to secure a complete list of laboratories in the country; (b) the preparation of a schedule of essentials in an improved clinical laboratory; and (c) the preparation of a questionnaire by which the essential facts regarding each laboratory could be obtained. After being revised and adopted by all parties interested, the questionnaire was mailed to all the laboratories of the country, and a hearty response was received. Wide publicity was given the complete report on "Essentials of an Approved Clinical Laboratory." To assist in giving fair consideration to each application for approval, strong committees of laboratory experts were formed in every state or section of the country. Each committeeman makes his investigation and renders his report independently of every other. Of the 314 laboratories that have reported, 151 have been approved. The Council lends all possible assistance to laboratories whereby they may become eligible for admission to the accepted list.

There are ample reasons for believing that actual improvements are being made: (1) a number of laboratories formerly run by technicians and only nominally under "medical directors, have come under the ownership and actual control of clinical pathologists of high professional standing and ripe experience; (2) a number of laboratories under the control of technicians have gone out of business; (3) the "Essentials" have been published repeatedly, and thus brought to the attention of all persons working in the field of clinical pathology; (4) there is an increased demand for pathologists to man the clinical laboratories of the country; (5) the director of the Mayo Foundation says that the salaries offered the pathological graduates of the Foundation are double those offered to other graduates; (6) the feeling of unsteadiness indicated in the discussions of a few years ago has subsided to a considerable degree, and there is a more hopeful attitude on the part of the clinical pathologists themselves.

The movement is still in its beginning, but a good start has been made. To what extent doctors have actually discontinued sending specimens to unapproved laboratories and are sending them to approved laboratories is not known. The educational results, however, are becoming increasingly evident. In order to secure the best analyses for the benefit of their patients as well as best to conserve the interests of the medical profession, physicians should refuse to have their work done at laboratories conducted under the direction of nonmedical individuals. Any laboratories not yet on the list will be promptly considered for approval if they express such a desire.

What Next?

According to the Associated Press, a proposal that paternity be abolished as a legal status and matriarchy adopted as the only definitely provable parental relationship caused a sensation at the Pan-American Child Congress held in Havana, December 10th. Dr. Carlos Pineiro, official Cuban delegate, said that the injustice of differentiating between the offspring of married and of unmarried women was obvious, since the only difference between them was the supposition of conjugal fidelity in the one case. He asserted that it was neither legally nor biologically possible to prove doubtful paternity. This, he declared, should be sufficient to annul its legal standing. Nature, Dr. Pineiro said, has given the mother predominant functions in the creation of the child. Marriage, he predicted, must inevitably disappear as the basis of family relations. Speaking in rebuttal, Dr. Carlos E. Paz Soldan, Peruvian delegate, said that Dr. Pineiro's theory would wound the moral sensibilities of America, upsetting social conditions. He characterized the Cuban physician as a utopian, congratulating him on his courage in voicing his opinions, but condemning these as impractical. He cited unpleasant results from the moral let-up which he said prevailed in Europe after the war.

Scientific Notes

At a meeting recently held in Vienna, attended by about a thousand of Austria's leading surgeons and physiologists, a majority were of the opinion that the word "rejuvenation" was a misnomer, and that the best that could be said for the gland-transplantation operation devised by Dr. Serge Veronoff was that it afforded "transient regeneration." Professor Scheyer, noted for his work in "rejuvenation," repudiated in behalf of himself and Dr. Veronoff any claim to rejuvenation, saying, however, that the Veronoff operation undeniably regenerated for from three to five years, which was not to be despised.

From Vienna later comes a report of the discovery of a new, simple, and inexpensive treatment for restoring vigor, made by Dr. Karl Doppler, assistant to Dr. Lorenz, based on the theory that old age is due to the sympatheticus, which causes contraction of the blood vessels, reducing the blood supply to the glands, which then deteriorate. Dr. Doppler's operation is said to consist of an incision into the inguinal region which is painted with a seven-per-cent solution of phenol. This is gradually picked up by the blood and kills the sympatheticus, and the blood vessels return to normal size, bringing about prompt improvement. Experiments are said to have been carried on for two years, in 200 cases, without a relapse. We regret that we do not have a first-hand report on this subject. It would make interesting reading, even though two years is an inadequate time on which to base any considered judgment.

Dr. Louis Sambon has a new idea in cancer research that may yield data of great value. He has selected the Isle of Wight and the Isle of Man as the site of his study, hoping to ascertain definitely whether there may be "cancer streets, cancer houses, and even cancer villages." He cites the method of study which yielded knowledge of malaria and yellow fever, and hopes to determine whether or not there is a specific cause for cancer and whether or not there are cancer carriers.

Another tragedy of the medical profession is being played out in the weary watches of sleepless nights at Dorchester, England, where Sir Henry Hind, the greatest living authority on Parkinson's disease, lies a martyr to this mysterious affliction.

Reservation of Motor License Tags for Physicians

In the province of Ontario, Canada, the government, at the request of the Academy of Medicine, this year reserved only for medical men motor-car license tags from 12,000 to 13,999. By this procedure the police force in this province immediately know a physician's car. It would seem to us that this principle could well be applied to the States.

Dental and Medical Coöperation

It is one of the policies of this JOURNAL to encourage coöperation between dentists and physicians. In line with this desire, we are interested to find the following item in the *Bulletin of the Medical Society of the County of Kings* (N. Y.): "At the April, 1927, meeting of the Second District Dental Society, it was decided to invite the county medical societies which cover the same territory to form a Joint Public Health Committee. Since there are undoubtedly mutual problems in the field of public health, a preliminary organization has been effected to bring about an opportunity for the two professions to participate in the discussion of such problems. . . . The first activity of this Joint Committee will be to bring about a conference in January of hospital superintendents, medical chiefs, and dental chiefs from the hospitals in Kings and Queens Counties having dental clinics."

Codification of State Laws

We learn from *Pennsylvania Progress* that 46 main divisions of our State law have been codified since 1901, and that "a codification is a systematic compilation or restatement of the law to date on a given subject. This procedure brings within one cover the whole body of law dealing with a specific subject, and eliminates running down the scattered enactments of Legislatures over a period of many years. The language of the code will be in harmony with court decisions construing the law covered. Such code may or may not include legislative revisions of the law as originally enacted." After the Freeman Commission has done its work there may be no need for further codification of laws bearing on practice of the healing art, but at the present time the chaos in these enactments is a cause of great confusion. To insist upon the codification of all medical laws would be to perform a service to the commonwealth.

MEDICOLEGAL AND LEGISLATIVE NOTES

The Pittsburgh Public Hearing of the Freeman Commission.—The commission appointed by Governor Fisher to study laws governing practitioners of the healing art, commonly known as the Freeman Commission, met in the Ballroom of the William Penn Hotel, Pittsburgh, Monday, January 16, 1928, and in the Norse Room of the Fort Pitt Hotel, Pittsburgh, Tuesday, January 17, 1928. All members of the Commission were present throughout both days of the hearing. The average attendance at the four sessions conducted was about three hundred, the audience being apparently equally divided at all sessions between the proponents and opponents of adequately and equally high educational standards, except on Tuesday afternoon, when it was evident that physicians were in the majority to hear the presentation of the case for chiropractors by chiropractors.

One week in advance the representatives of the groups who had manifested a desire to appear before the Commission in Pittsburgh had been provided with questionnaires, which it was suggested they be prepared to follow in their presentation. The chairman, at the opening hearing, stated that the program as sent out in advance would be adhered to, and Dr. N. P. Colwell, of Chicago, Secretary of the Council on Medical Education and Hospitals of the American Medical Association, was assigned the entire period on Monday morning—10.45 a.m. to 12.45 p.m. Dr. Colwell, from a background of twenty-four years of study and experience, during which medical education and hospital management have risen in this country from a low place to a leading place in world-wide circles, was able, during his address, by means of charts and replies to questions from members of the Commission, graphically to portray uninterrupted progress, under the guidance of medical men and medical and lay organizations, in the improvement of health conditions. His knowledge of the improvements in the equipment and the curricula of medical colleges from 1890 to 1928 was demonstrated to be complete, the same being true of his knowledge of the lack of the same requisites in the schools of the limited healing cults that have sprung up in the same period of time.

Two hours and a half of Monday afternoon's session were given over to the proponents of a single, high, educational standard for all seeking license in Pennsylvania to follow the occupation of treating the sick, to reply to thirty questions submitted in advance to "the allopathic and homeopathic schools." Dr. Walter F. Donaldson of Pittsburgh, introducing himself as Secretary of the Medical Society of the State of Pennsylvania, stated that he would introduce various physicians delegated by the Board of Trustees to reply to the questions, and that formal, concise replies were

being submitted to the Commission in the form of a brief.

It is interesting to note at this point that twelve of the first fourteen questions submitted were based on quotations from the brief submitted by our Board of Trustees to the Freeman Commission at its Philadelphia hearing, and that the remaining questions were based upon quotations from the brief submitted at the Philadelphia hearing by the Pittsburgh Health Club, an organization of anti-immunologists, and also that there is little doubt that the questions addressed to "the allopathic and homeopathic schools" were dictated by or through the chiropractic representative on the Commission.

Dr. Alexander H. Colwell of Pittsburgh, called upon to reply to the first five questions, held the floor for thirty minutes in his development of the concise replies submitted in the brief, and in replies to questions from members of the Commission. Dr. Colwell was followed, in the same manner, by Drs. I. Hope Alexander, Paul Titus, Clement R. Jones, Edward E. Mayer, and Samuel A. Haythorn, of Pittsburgh, all members of the Allegheny County Medical Society; Dr. William C. Woodward of Chicago, Executive Secretary of the Bureau of Legal Medicine and Legislation of the American Medical Association; and Dr. George B. Moreland of Pittsburgh, a member of the Allegheny County Homeopathic Medical Society.

At the conclusion of the presentation by the group just referred to, Chairman Freeman called upon Dr. R. G. Burns, Director of the Department of Health of the City of Pittsburgh, and Professor Edward Rynearson, Director of the Vocational Guidance Department of the Pittsburgh Public School System. Assuming that our readers have knowledge of the subject being studied by the Commission and can surmise the character of the replies to the questions given by the representatives of our State Medical Society, we will pass on to a brief reference to the testimony of Professor Rynearson before the Commission. The Pittsburgh public-school system maintains a bureau of vocational guidance for the benefit of high-school students seeking advice regarding their future vocation and education in training for their life work. The bureau has been in existence for many years, with Professor Rynearson as director. Mr. Rynearson testified that after a specific investigation of Pittsburgh's only chiropractic college, his advice to high-school students contemplating chiropractic as a vocation could not be other than negative because of the low educational requirements for admission, the character of instructions given, the personnel of the faculty, and the absence of laboratory facilities and clinical equipment.

The last fifteen minutes of the Monday afternoon period were given over to the representative of the Pittsburgh Health Club, who in characteristic style contributed to the knowledge and opinion of the subject under discussion, as already expressed before the Commission, his pointless opinion regarding the members of the Allegheny County Medical Society, as commercialized murderers, fee-splitters, unsexers of women for profit only, etc., etc., etc., *ad libitum*.

Tuesday morning was given over to the naturopaths, six of whom appeared before the Commission, two licensed and four unlicensed, who replied to such questions as "Have you been molested since being licensed? Is naturopathy a cure? What diseases are treated naturopathically? If the naturopaths are granted recognition how do they propose that unlicensed drugless practitioners in Pennsylvania today should be dealt with?"

Of course the licensed exponents replied that they had not been molested. One of the unlicensed exponents, in describing his recent trial for practicing medicine without a license, naively stated that one of his marvelous cures—a little girl—had romped around playfully up and down the court room. We leave to your imagination the replies to the second and third questions. The replies to question four varied in character, but in the main it was contended that those who are now in practice should be automatically licensed and the educational requirements advanced hereafter.

The Tuesday afternoon session was devoted to neuropaths and chiropractors. In reply to the question "Define the method used in making diagnosis in five distinct cases and prescribe their treatment," the representative of the neuropaths bravely began the recital of a classical case of exophthalmic goiter. When he came in the text to the word *bruit* he boldly pronounced it *brew-it*. The titter that ran around the room resulted in his apologetically stating that it was a Latin word. When a near-by M.D. *sotto voce* informed him that it is a French word, the unfortunate essayist surrendered his post on the firing line to a brother neuropath and all but collapsed into a chair graciously vacated by a sympathetic member of the Allegheny County Medical Society, who stood the rest of the afternoon.

We wish that space would permit us to recount the numerous humorous instances in which the proponents of double licensing standards attempted to display in a profound manner their self-satisfaction with their present state of knowledge. We wish our readers could have joined in the spontaneous outburst of merriment that greeted the observation of the dean of the Universal Chiropractic College in response to a question by a member of the Commission when he stated "We chiropractors believe that vaccination against smallpox is still on trial." This same dean, who presides over a faculty of six chiropractors, annoyed some of his hearers when, running true to form, he denied the statement made by Director Rynearson that "the chiropractic college conducts no dissections on the human cadaver," forgetting that the Commission is already in possession of evidence from the Anatomical Board of the State of Pennsylvania (the only legitimate source of material) that "since 1899 no cadaveric material has been distributed to either of these (chiropractic and naturopathy) systems of human relief."

In reply to the question "Why is it that a subluxated vertebra can be so easily detected by a chiropractor and not by a physician?" the equivocating dean stated that during several hundred hours' special training in their dactyl art all their students gained the knowledge, checked by x-ray findings, which is not included in the curriculum of a medical college. As in all instances before the Commission where questions of fact or diagnosis easily subjected to proof, were discussed, the dean did not state that the x-ray findings referred to differed in any way before and after the application of the chiropractic therapeutic "thrust." In response to another question this dean recounted quite an impressive array of school credits required of all candidates for admission to his school, forgetting again that the Commission has in its possession a copy of a letter written by his school to a prospective student under date of November 3, 1927, in-

viting said belated student to enter then since *"there are no educational requirements for admission."*

The reply by the chiropractors to the question "What does your school wish changed in the present law?" is to be found in the brief submitted by the Pennsylvania Chiropractors Association to the Commission, epitomized as follows:

(a) The State Board of Medical Licensure should be abolished, and the laws providing for same should be repealed.

(b) A separate board of examiners and of licensure and discipline.

(c) License automatically granted to all chiropractors who have been in practice one year.

(d) The right to the general title of doctor.

(e) The right to treat quarantinable diseases, to certify concerning same, including death certificates.

(f) The right to place and treat patients in hospitals receiving state appropriations, such patients to be permitted to employ doctors of osteopathy, chiropractic, and neuropathy, irrespective of school or cult.

(g) All medical schools receiving state appropriations shall admit students in special branches who may not otherwise matriculate in the courses of the medical school.

These demands on the part of the unlicensed chiropractors made upon this Commission will undoubtedly be carried to the 1929 Pennsylvania Legislature, with or without recommendation by the Freeman Commission, and the threat they imply to public-health interests should not be lightly treated by parents, teachers, employers, and hospital managers, and the twelve thousand legally licensed physicians throughout Pennsylvania.

Antivivisectionists in Action Again.—Information has reached us that the American Antivivisection Society is circulating a "petition for the exemption of dogs from vivisection," headed as follows: "We, the undersigned, heartily endorse the bill for the exemption of dogs from vivisection in the District of Columbia or in any of the territorial or insular possessions of the United States, as proposed by the International Conference for the Investigation of Vivisection, to be introduced at the next session of Congress, 1927-28." Watch should be kept for activity in connection with this bill.

Apropos of the above, it is of interest to note that a few months ago the Prince of Wales intimated that he would sever his connection with the Royal Society for the Prevention of Cruelty to Animals, of which he is president, unless it abandoned its promotion of the antivivisection bill. Naturally the attitude he assumed caused a controversy with the Society. The executive committee, apprised of the Prince's attitude, decided to abandon support of the bill, but there was an uproar over the decision at the Society's annual meeting, and a resolution was adopted expressing regret at the committee's action. While the heir to the British throne frequently may be unhorsed, he is riding safely in the saddle in his attitude on antivivisection.

Legal Cases of Interest.—A news dispatch from Indianapolis, Ind., states that Otis Briggs and the Rev. Charles H. Gunsolus, of Indianapolis, were indicted by a Federal grand jury in Washington for using the mails to defraud in connection with alleged diploma "mills." They are charged with postdating diplomas so that recipients would not have to take state-board examinations. Among six others included in the indictments was W. H. Ames, said to be from Harrisburg, though this name is not listed in the city directory.

In December, bail of $3,000 was fixed for the release of a chiropractor in Quebec province, Canada, on a charge of manslaughter in connection with the death of a four-year-old boy whom he had been called to treat shortly before the child's death. The chiropractor is charged with responsibility for the child's death because he did not notify a medical practitioner as to his condition. An autopsy was done on the exhumed body, and death was found to have been due to diphtheria. A coroner's jury brought in a verdict of death by manslaughter, and the chiropractor's arrest followed.

In a judgment recently handed down in Canada, $3,200 damages were allowed a plaintiff in his action against a chiropodist. In February, 1926, the plaintiff went to the defendant for treatment for fallen arches. It was claimed at the trial that the chiropodist told the plaintiff he could effect a cure within six weeks. As a result of treatment the plaintiff lost one toe off one foot and two toes off the other. The Justice was satisfied that it was bad practice for the defendant to bandage plaintiff's feet, and that it was bad and negligent treatment which brought about gangrene.

Activities of the Food, Drug, and Insecticide Administration of the U. S. Department of Agriculture.—During 1927 an extensive survey was conducted of extracts of cod liver, of cod-liver oil, and of various products alleged to contain the vitamins of cod-liver oil found in interstate commerce. Biological examination showed that practically all of the extracts and concentrates examined were virtually devoid of vitamin A and that very few contained any material amount of vitamin D. The Department of Agriculture will take action against products that are labeled or represented as containing the cod-liver-oil vitamins unless such products contain in the recommended dosage vitamins in quantities equivalent to those present in the normally prescribed doses of cod-liver oil. Investigations of this class of products will be continued for the purpose of removing from the market adulterated, misbranded, deteriorated, or otherwise illegal preparations.

The contact committees of the American Drug Manufacturers' Association and the American Pharmaceutical Manufacturers' Association have submitted a report indicating the degree of accuracy within which properly manufactured medicinal tablets can be made under present-day methods, and including methods of analysis for the tablets and the following suggested tolerances for ten of the more common compressed tablets: *Hypodermic tablets*—atropin sulphate 7½ to 12% depending upon the grainage, cocain hydrochlorid 9%, hyoscin hydrobromid 7½ to 12% depending upon the grainage, morphin sulphate 7½%, nitroglycerin 15%. *Compressed tablets*—acetanilid 7½%, acetphenetidin and salol 10%, calomel 7½%, calomel and soda 7½ to 10% depending upon the grainage, cinchophen 7½%, codein sulphate 9%, phenolphthalein 7½%, salol 9%, sodium bromid 7½%, strychnin sulphate 7½ to 12% depending upon the grainage. In promulgating the report of the contact committees the Department invites comment from manufacturers, distributors, prescribers, and any others interested in the preparations involved. Complete copies of the report may be obtained from the Food, Drug, and Insecticide Administration, United States Department of Agriculture, Washington, D. C.

On March 4, 1927, the Federal Caustic Poison Act, providing that household containers of lye and other caustics shall be labeled "Poison" in large and conspicuous type and shall bear directions for treatment in case of accidental injury, became a law, but no penalties were to be imposed until September 4, 1927. Manufacturers of such products have now had over nine months in which to familiarize themselves with the requirements of the act and to label their preparations in accordance with its terms, and the Administration has instructed its sixteen branch stations to make a survey in their respective territories of these products and to initiate such action as may be necessary to see that all such products are labeled in accordance with the provisions of the law. Violations of the law are subject to a fine of not more than $200 or imprisonment for not more than 90 days, or both.

Two Acts Declared Constitutional.—The widow of an industrial worker petitioned for compensation more than 300 weeks after his alleged injury. The defendant claimed that under Section 301 of the Act, compensation may not be recovered more than 300 weeks after injury. The claimant contended that the Act is unconstitutional in that it attempts to limit the claims to be made to 300 weeks and that such is not in accord with the rights under the common law. On this question the Court said: "We need but repeat what has been said a number of times in connection with this Act of Assembly, to the effect that the common-law rights disappear when parties, employer and employee, submit themselves to the Workmen's Compensation Act, and having undertaken to claim the benefits of that Act, they are bound by its provisions irrespective of what common-law rights have been taken away."

According to *Pennsylvania Progress*, a special court of equity consisting of Circuit Judge Woolery and Federal Court Judges Kirkpatrick and Dickinson, sitting *en banc*, has rendered a decision upholding the constitutionality of the State Act of Assembly requiring owners and all stockholders of chain drug stores to be registered pharmacists. The test suit was filed by the Thomas J. Liggett Company. Another suit brought by the George B. Evans Company to test the constitutionality of the act is still pending in the Common Pleas Courts of Philadelphia.

Summary of New Provisions in the Motor-Vehicle Law.—Section 209-b. The owner of a motor vehicle shall notify the secretary, within 10 days, of its destruction or junking, and return certificate of title to the department for concellation.

Section 405-b. The owner, upon receiving the registration card, shall write his usual signature with pen and ink in the space provided upon the face of such card.

Section 406. The registration card, at all times while the vehicle is being operated upon a highway within this Commonwealth, shall be in the possession of the operator thereof, or carried in the vehicle.

Section 503. Every registration plate shall at all times be securely fastened, so as to prevent it from swinging, one on the front the other on the rear, in a place and position clearly visible, and shall be maintained free from foreign materials and clearly legible.

Section 601. No person shall operate any motor vehicle upon a highway unless licensed as an operator or learner.

Section 615. The secretary shall revoke for one year the license of any person convicted of driving while under the influence of liquor or narcotics; perjury or making a false statement under laws regulating motor vehicles; commission of a felony by use of a motor vehicle; failure, in case of accident, to stop and render assistance and disclose identity. Period of revocation to be doubled for operating a car while license is revoked. Revoked licenses and permits to be surrendered to department.

Section 616-a. The secretary may suspend license whenever he has reason to believe that licensee has committed an offense for which revocation is mandatory; that holder of license is incompetent to operate a car; that he is an habitual reckless or negligent driver; conviction upon three charges of reckless driving within 12 months; upon request of court; when a worthless check is presented in payment for license; in case of manslaughter resulting from the operation of a motor vehicle.

Section 809. A headlight will be presumed to project a dazzling light if the top of the main beam of light is, at a distance of 25 feet, on a level stretch of highway, projected at a height greater than the distance of the centers of the lamps from the highway. In no case shall the top of the beam be higher than 42 inches above the highway 75 feet ahead of the motor vehicle. A driver, arrested for improperly adjusted lamps, shall be allowed 48 hours to bring them into conformance with the requirements of this act. Presentation of a certificate from an official adjusting station showing that within 48 hours after arrest such lamps have been made to conform with the requirements shall be a defense in court.

Section 810. When parked upon a highway a car may show one white or green light, carried on the left side, visible under normal atmospheric conditions from a distance of 500 feet to the front, and projecting a red light visible under like conditions from a distance of 500 feet to the rear. Local authorities may establish zones within which motor vehicles may remain standing without lights.

Section 812. The secretary is authorized to designate and supervise official stations for adjusting head lamps, etc., to conform with the provisions of this act. Certificates of adjustment shall be issued to owners or operators of cars.

Section 813. Every motor vehicle, when operated upon a highway, shall be equipped with adequate brakes, including two separate means of applying the brakes, each of which will be effective to apply the brakes to at least two wheels, and so constructed that no part which is liable to failure shall be common to the two.

Section 815. No vehicle may be so loaded or constructed as to prevent the operator from obtaining a rear view by looking backward, unless it is equipped with a mirror so located as to reflect to the operator a view of the highway for a distance of at least 200 feet to the rear. Persons with less than two per cent of normal hearing are required to have a mirror providing a view of traffic approaching from the rear on any car which they may drive.

Section 816-b. Every permanent windshield on a motor vehicle shall be equipped with a wiper.

Section 1001. Any person who drives any vehicle upon a highway carelessly and willfully or wantonly disregarding the rights or safety of others, or in a manner so as to endanger any person or property, shall be guilty of reckless driving. Not more than three persons are permitted to occupy the front seat.

Section 1002. Any person driving a vehicle on a highway shall drive at a careful and prudent speed, not greater than is reasonable and proper, having due regard to the traffic, surface, and width of the highway and of any other conditions then existing, and no person shall drive any vehicle upon a highway at such a speed as to endanger the life, limb, or property of any person. Speed limits designated are: 20 miles an hour when approaching within 200 feet of a grade crossing; 15 miles when passing a school while children are entering or leaving; 20 miles when approaching within 50 feet and in traversing an intersection within a business or residence district; 20 miles within a business or residence district where signs specifying this limit are erected; 35 miles under all other conditions. A motorbus shall not exceed 30 miles.

Section 1008. Upon all highways of sufficient width, except upon one-way streets, the driver shall drive upon the right half of the highway. Slow-moving vehicles are to be driven as far as possible to the right, except when overtaking and passing another vehicle.

Section 1011. The driver of any vehicle overtaking another vehicle proceeding in the same direction shall pass at a safe distance to the left, and shall not again drive to the right until safely clear. When not within a business or residence district, audible warning shall be given with horn or other warning device before attempting to pass.

Section 1012. In overtaking and passing, the driver of a vehicle shall not drive to the left of the center line unless such left side is clearly visible and free of oncoming traffic for a safe distance. Passing is prohibited upon the crest of a grade or upon a curve where the view is not clear for 300 feet ahead. Passing is prohibited at railroad crossings or intersection of highways, unless such intersection is controlled by stop-and-go signals, or unless permitted so to do by a traffic or police officer.

Section 1013. The driver of a vehicle about to be overtaken and passed shall give way to the right and shall not increase his speed until completely passed.

Section 1016. On starting, stopping, or turning from a direct line, pedestrians affected must be signaled by the horn, and other vehicles shall be given a signal plainly visible to the driver. Such signal may be given by the hand and arm or by an approved mechanical or electrical device. In the former case, signal to start, stop, or turn, shall be given by extending the hand and arm horizontally from and beyond the left side of the vehicle or, in a closed vehicle, so as to be visible through the rear window.

Section 1018. Vehicles entering from a private drive yield the right of way to those on the highway. Police and fire-department vehicles and ambulances, when upon official business, have the right of way, but they are not relieved from the duty to drive with due regard for the safety of all persons using the highway.

Section 1019. Upon the approach of such an official vehicle, other cars should drive as close as possible to the right-hand curb, parallel to the curb, and stop, unless otherwise directed by a police or traffic officer, until the official vehicle shall have passed. It is illegal to follow fire apparatus responding to an alarm closer than 500 feet or to drive into or park in the square where fire apparatus has stopped in answer to an alarm.

Section 1020. Authority is given to designate through highways, and traffic entering from intersections shall come to a full stop before entering.

Section 1021. Passing of street cars on the left is forbidden except in one-way streets.

Section 1023. Cars may not be parked on the highway, outside of a business or residence district, when it is practicable to park them off of the paved or improved or main-traveled portion of such highway. A clear and unobstructed width of not less than 15 feet must be left for free passage of other vehicles upon the highway, and there must be a clear view of the parked car for 200 feet each way. This shall not apply to disabled cars which must be left temporarily.

Section 1025. Vehicles left unattended upon any highway must have brakes effectively set and motor stopped, and when standing on a grade, front wheels turned to curb.

Section 1029. A driver involved in an accident must immediately stop at the scene of the accident. He must give his name, address, registration number of his vehicle, and exhibit his operator's license to the person struck or driver or occupants of vehicle collided with, and render reasonable assistance, including carrying of such person to a physician or surgeon if requested or if it is apparent that such treatment is necessary.

Section 1030. The operator of any motor vehicle involved in an accident resulting in injuries or death to any person or property damage to an apparent extent of $50 shall forward a report of the accident to the department within 24 hours, or to the police headquarters when the accident occurs within an incorporated city or town. Supplementary reports may be required if the first is deemed inadequate, and such reports shall be without prejudice. They shall be for the information of the department and not open to public inspection nor admissible as evidence in any trial arising out of the accident.

PHYSIOTHERAPY

Additional Evidence of the Value of Sunlight in Rickets.—A three-year rickets study has just been completed by the Children's Bureau of the U. S. Department of Labor, and a report published by Miss Grace Abbott, chief of the bureau. Study of the x-ray plates taken in New Haven revealed the fact that there were many which were very difficult to interpret because of lack of knowledge as to what could be considered normal. Before correct interpretation could be made, it seemed important to attempt to establish the normal by study of infants who were receiving adequate antirachitic treatment in a natural manner. A study was therefore undertaken in Porto Rico to secure a series of x-rays of bones of infants living in the tropics to compare with the series taken in New Haven. The procedures were kept uniform and the work was carried on by the same personnel. Examinations were made of approximately 600 Porto Rican infants between the ages of two weeks and two and a half years during January and February of 1927. In the group of Porto Rican infants only one case of really active rickets was found—an infant 6½ months old who was born and lived for 5½ months in a cellar lighted only by electricity. No sunlight could enter the room, and the infant was never taken out of doors because he was always considered sick. After three weeks of heliotherapy at the Presbyterian Hospital, evidences of healing were shown by the x-ray, and at the end of three months the bones had essentially returned to normal. Careful study of the x-ray material gathered in Porto Rico is being made, and the conclusions will be of great value in the further interpre-

tation of the x-rays taken in New Haven, according to Miss Abbott.

The Quartz Mercury Vapor Arc Lamp.—Hundreds of different forms of quartz mercury vapor arc lamps have been devised and many are in daily use. There are only a few types which have been found commercially practical. The usefulness of any light source in therapeutics depends on the character and quantity of the radiations emitted. The very short rays from the quartz lamp, i.e., in the neighborhood of 1,900 A. U., are readily absorbed by the oxygen of the air, with the formation of ozone which is always noticeable in the neighborhood of an air-cooled lamp, especially just after the lamp has been lighted and is still cold. As the arc warms, the layer of mercury vapor which forms between the walls of the arc tube absorbs the greater part of these radiations, with the result that the producion of ozone is decreased. Consequently, very little ozone is detectable in the neighborhood of a lamp which has been burning for some time. The quartz mercury vapor arc lamp is essentially a column of highly heated incandescent mercury stones undergoing continual ionization and de-ionization, and continued within a fused quartz envelope devoid of gases which react chemically with mercury, and usually devoid of all gases. It is this continual ionization and de-ionization of the mercury atoms which produce the emission of ultraviolet radiation.

The ultraviolet wave lengths emitted by all quartz lamps are the same, and the intensity is solely dependent on the diameter of the arc tube, length of the arc, age of the burner, voltage between the electrodes, and the amperes consumed. The style of electrodes employed plays absolutely no part in the contribution of the ultraviolet component. Their only contribution is a small amount of heat radiation. The characteristics of the quartz mercury vapor arc lamp require that the negative electrode be composed of metallic mercury, for it is this electrode which must supply the mercury vapor that maintains the arc. The anode, or positive electrode, may be made of any suitable material. In practice, because of the high temperature at which the quartz lamp operates, a coil of tungsten or a pool of metallic mercury have been found to be the most satisfactory. These two types are commonly known as the tungsten-anode lamp and the mercury-anode, or all-mercury lamp. The mercury-anode type of burner uses more quartz than the tungsten-anode type. However, it can be repaired much more readily and the emission of radiation through the quartz is not interfered with by a film, such as the film of tungsten, which gradually coats the inside of the Cooper-Hewitt burner and which is not tranpsarent to ultraviolet radiations. As previously stated, both types of burner, when operated under similar current and voltage conditions and after the same number of hours of use, emit the same wave lengths and with equal intensity, allowance being made for the additional infrared radiation produced by the tungsten anode in the Cooper-Hewitt type.

It is advisable to handle the quartz walls of the arc tube of a burner as little as possible, inasmuch as any grease or dirt on the quartz will be "burned in" when the burner is operated, permanently decreasing the transmissibility of the quartz to the desired ultraviolet radiations. It is advisable to wash the quartz burner carefully each day before using it with a little pure alcohol. Impure or doctored alcohol should never be used, as this frequently contains substances which do not readily volatilize and which are "burned into" the quartz. If good alcohol is not available, the burner may be washed with a little soap and water, care being taken to rinse off thoroughly. Pure water will not hurt the burner, but soap left on the burner during operation most certainly will.

Therapeutic quartz lamps are provided with hoods. These hoods are designed more to prevent dissemination of radiations in undesirable quarters than to act as reflectors. Actually, the hoods in use, even though tarnished and discolored, do reflect about 10 to 15 per cent of the ultraviolet radiations. This is due to the fact that, even though they may appear to be poor reflectors for the visible, they do reflect the ultraviolet and especially the longer ultraviolet extending to about 2,800 A. U.

Outline of Physiologic Ultraviolet: (1) Ultraviolet is a complex, not a simple thing. There are divisions in the ultraviolet which have no measurable effect on human beings and animals. The *vital* effective ultraviolet does not pass through glass. It is present in summer noonday sunshine and in rays from proper emanators. (2) Plants and animals, including man, do not depend on the same kind of ultraviolet. Plants thrive in glass houses. Babies die in them. (3) It would seem that there is a labor union in the ultraviolet radiation. Specialization is enforced. Certain rays cause sunburn and suntan; other rays protect against rickets. Ultraviolet which passes through glass does neither. (4) These factors must be known to advance the field of ultraviolet—(a) Quality of ultraviolet radiation. (b) Intensity. (c) Time. (d) Distance. (5) The patient is the only variant; he should never be forgotten.—*Medical Review of Reviews.*

PUBLIC HEALTH

Pennsylvania Public Health Association.—The annual meeting of the Pennsylvania Public Health Association will be held in Philadelphia, February 13 and 14, at the Philadelphia County Medical Society Building, 21st and Spruce Streets.

A tentative program has been outlined for these two meeting days, the principal papers being read and discussed on Monday, February 13, morning and afternoon, and Tuesday morning, February 14.

On the evening of February 13, a speaker of national repute will address the convention on an important phase of public health interest. Dr. Howard C. Frontz, president of the Association, will be the presiding officer, and Dr. Wilmer Krusen, president of the Philadelphia College of Pharmacy and Science and chairman of the program committee of this convention, will make an introductory address. Dr. Theodore B. Appel, Secretary of Health for the State of Pennsylvania, will open the meeting on February 13 by reading a paper on "Heart Disease as a Public-Health Problem." This subject will be discussed by Dr. James D. Heard, president of the Pennsylvania Heart Association, and by others who have taken a prominent part in the prevention and relief of heart disease.

On Monday afternoon the meeting will be devoted to the subject of "Cancer." Dr. Damon B. Pfeiffer, representing a committee on the prevention of cancer, will present his subject, which will be discussed by persons prominent in this particular research.

On the morning of Tuesday, February 14, Dr. Harriet L. Hartley, chief of the Division of Child Hygiene, will discuss "Problems of Infant Welfare."

It is expected that the Director of the Department of Public Health of Philadelphia and the Commis-

sioner of Health of Pittsburgh will make addresses of general interest.

Average Amount of Illness.—The conclusion has been reached by the United States Public Health Service after a survey it conducted to determine the amount and types of illness with which people of this country suffer yearly, that the average American is ill about once every year. For the purposes of the investigation, the Health Service selected a small inland city which was considered representative of the average American city, judged by standards of climate, diversity of industry, number of foreign-born population, and organization of its society. Inquiries were made twice a month over a period of twenty-eight months at every residence in the city as to past illnesses of the occupants. The resultant figures revealed that there had been an average of 1,050 illnesses yearly for every 1,000 inhabitants. Forty per cent of the illnesses were of sufficient gravity to require confinement to bed. The annual death rate for the period was 9.3 deaths for each 1,000 inhabitants. Cases of colds and bronchitis exceeded in numbers other diseases and illnesses which were reported, averaging 4,186 cases yearly for each 1,000 inhabitants. The average for influenza and grip was next highest, with 143.2 cases.

Seasonal and Age Factors in Measles.—A study of case reports from ten states during the five-year period from 1922 to 1926, made by the Metropolitan Life Insurance Company, shows that the peak of measles prevalence occurred during the late winter and spring months, and that with the coming of warm weather the case incidence dropped very sharply and continued the decline to a low point, which was reached in September. On the other hand, the case fatality rate was highest in the summer, the records uniformly showing that a greater proportion of measles cases terminated fatally during August and September than at any other time of year.

The maximum prevalence of measles in relation to age occurs in the fifth year, whereas the maximum case fatality rate occurs in the first year. While the actual death rate—that is, the number of deaths per 100,000 living—reaches its maximum in the second year of life, there are many more cases in the third, fourth, and fifth years than in the second year.

It is worthy of emphasis that, regardless of the age or season when the disease is contracted, the period of convalescence is the most important stage of measles. It is when the child is recovering that he is weakest from the effects of the disease, and it is then that dangerous complications are most likely to develop.—U. S. *Public Health Reports.*

A New Cancer Study Instituted.—As a result of the gift of $45,000 to the Graduate School of Medicine of the University of Pennsylvania by Irénée du Pont, research will be conducted in the physico-chemical conditions associated with the cancer state. The directing committee consists of Dr. Ellice McDonald, assistant professor of gynecology in the Graduate School of Medicine, chairman; Dr. William C. Seifriz, professor of botany in the College; and Dr. George H. Meeker, dean of the Graduate School of Medicine. Their statement outlining the work of the Cancer Research Fund is as follows:

"In considering the program of study of cancer, the natural history of the disease has been taken as outlining the method for investigation and as justifying the working hypothesis that cancer is a problem in cell reproduction, that it is a state of the cells in which they produce themselves lawlessly, or contrary to the normal or usual state of intracellular or intercellular equilibrium.

"The study of cancer is, therefore, taken to be the study of the physico-chemical phenomena, coincident to this state, in a living system. For this reason, the main aim will be to study the physico-chemical conditions associated with the cancer state. These will be studied in the blood of cancer patients, in the biochemic reactions of the body, in tumors generally, in tissue cultures, and in colloidal systems having a similarity to the human colloidal systems.

"Inasmuch as the study is one of the physico-chemical phenomena concerned, the advice and consultation of a number of prominent physicians, physicists, and chemists will be obtained.

"The study will not be a strictly medical study, but primarily a physico-chemical one from a biological point of view."

Maternity and Infancy Welfare.—Extension of the coöperation between the States and the U. S. Children's Bureau under the Federal Maternity and Infancy Act, increased interest on the part of communities, and a greater sense of local responsibility for the welfare of maternity and infancy are listed among the accomplishments of the past year by Miss Grace Abbott, chief of the Children's Bureau of the U. S. Department of Labor. A total of 45 states—all except Massachusetts, Connecticut, and Illinois—and the Territory of Hawaii were receiving the benefit of the act at the beginning of the fiscal year 1928. During 1927, in 44 states and Hawaii, 1,808 combined prenatal and child-health conferences were held, 21,347 child-health conferences, and 3,231 prenatal conferences. The number of expectant mothers reached in the 38 states reporting on this subject was approximately 161,000. The number of infants and preschool children reached in 39 states and Hawaii was approximately 1,034,000. The number of counties having maternity and infancy work in 44 states and Hawaii was 1,884. Seventy combined prenatal and child-health centers were established during the year, 235 child-health centers, and 14 prenatal centers. There can be no question that infant mortality and maternal mortality have been proportionally lower where Sheppard-Towner work has been carried on. "The work being done under the act," Miss Abbott says, "shows that the Federal subsidy has resulted in developing better home care for mothers and babies, and better community provision for hospital care at the time of childbirth. State and local health officials have found that the national interest which national participation in the program creates, as well as the Federal funds made available, has contributed to the success of their work."

Mortality from Automobile Accidents in 1926.—The Department of Commerce has announced that in the registration area in continental United States there were 18,871 accidental deaths in 1926 charged to automobiles and other motor vehicles (excluding motorcycles), and that the death rate from this cause was 17.9 per 100,000 population against 17 in 1925, 15.7 in 1924, 14.9 in 1923, and 12.5 in 1922. These figures do not include collisions of automobiles with street cars or railroad trains. Adding these classes, the total deaths assigned to automobile accidents would make for the registration area a grand total of 20,891, and would raise the rate to 19.9 per 100,000 population. As in 1926 the registration area included only 89.8 per cent of the total population, the estimated deaths throughout

the United States approximated 23,264 as a result of accidents involving automobiles. Fancy our consternation if these deaths had been caused by an epidemic of, say smallpox! Certainly the figures show the need of a more discriminating method of licensing.

State Health Department News

Dr. W. G. Turnbull, Deputy Secretary of Health, in charge of the State's sanatoria activities, reports that during the past year the three State sanatoria for tuberculosis were run at full capacity. During this period there was a continuous waiting list for admission. This list reached as high as 1,100 during the summer months. The waiting list for women was particularly long. During the year, 3,293 patients were admitted; 768 of these going to Hamburg, 1,318 to Mont Alto, and 1,207 to Cresson. The Mont Alto Sanatorium was opened in 1906; Cresson in 1913; and Hamburg in 1914. Since the opening of the institutions 58,782 patients have been treated—30,098 at Mont Alto, 15,826 at Cresson, and 12,858 at Hamburg.

A report recently issued by the Bureau of Communicable Diseases indicates that the incidence of infantile paralysis dropped to a normal point during December. Though the number of cases had not reached epidemic proportions, it was far above the average. Only ten cases were reported during December, and none during the first week in January. It was stated that this was the first week since August 1, 1927, in which no new cases had been reported. For the year 1927, up to the latest tabulations, 470 cases were reported with 86 deaths occurring.

A new low annual figure in smallpox was established during the year 1927, but 20 cases of this disease having been reported. The year 1926, the next lowest, reported 39 cases. The Department indicates that these figures prove the absolute value of protection afforded by vaccination.

The Venereal Disease Section reports that during December 104 persons who were public-health menaces were placed under quarantine in various institutions throughout the Commonwealth.

Inspectors of the Bureau of Field Inspection are now at work in the fourth-class school districts checking up on the unvaccinated pupils and those who were unsuccessfully vaccinated for the present school term. The schools will be visited for the reëxamination of pupils in the order of the filing of complaints with the Bureau. The Bureau is also re-inspecting public eating and soft drink stands. Where the previous inspectors found these places to be violating the law and they had not changed their practices since that time, it was indicated that suits would be brought immediately. The Restaurant Hygiene Section has received the printed cards which set forth the sanitary requirements to be observed by operators of public eating and drinking places. Letters are being forwarded to all boards of health offering these posters for the purpose of placing them in the hands of restaurant proprietors. A distribution of these printed rules is now being made by the Department's health officers in the rural districts. This form sets forth the rules as prescribed by the law of April 27, 1927, Act No. 283.

The Bureau of Field Inspection has entered suits against a number of physicians who neglected to report contagious and communicable diseases. An intensive drive is being made to have all reportable diseases promptly brought to the attention of the Department of Health.

The Nursing Bureau announces that in the centers where chest service has become more or less routine, the Bureau's nurses have been instructed to interest physicians and to communicate with all contacts that have been exposed to an active case of tuberculosis. This effort is state-wide and will be one of the features of the Bureau's service during 1928.

A report issued by the Bureau of Child Health shows that 9,394 school children were immunized against diphtheria during a recent thirty-day period. This covered activities in 37 counties.

Dr. J. Moore Campbell, chief of the Communicable Disease Bureau, has announced the appearance of a new disease in Pennsylvania. Malta fever, known in recent years to have occurred in some of the middle western states, has been reported to the State Department with two cases from Lancaster County, two from Delaware County, and two from the city of Philadelphia. As a step in the control of this infection, the Advisory Health Board of the Department has passed regulations requiring physicians to report at once to the health office all cases attended by them. Dr. Campbell indicated that this disease resembles typhoid fever, and for that reason the Department laboratories are making a Malta-fever test on all specimens of blood sent in by physicians for a typhoid-fever test which do not show a reaction for that disease. The disease is caused by a germ transmitted in the milk of cows and other animals susceptible to the infection. They may continue as carriers of the germ for long periods after they recover from the disease.

Dr. Emlyn Jones, Chief of the Bureau of Vital Statistics, reports that typhoid fever for the year 1927 showed the remarkable decline of 600 cases below the previous low record of 1924, the total number of cases being but 1,474. In 1906 there were 24,471 cases reported, or 344 per 100,000 population, as compared with 15 per 100,000 in the year just closed.

A total of thirteen thousand and twenty-six treatments were given in the fifty venereal-disease clinics operated by the State Health Department during a recent thirty-day period, while 255 persons were reported noncontagious. The patients given treatment were those not able to pay for the services of a private physician. Had they not been cared for in public clinics they would have constituted a menace to the Commonwealth.

Morbidity in Pennsylvania in December, 1927

Locality	Cases				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Allentown	20	3	40	....	26
Altoona	3	3	47	....	1
Ambridge	26	45	13	....	....
Beaver Falls	4	.....	4	1	....
Berwick	.....	.....	.....	....	1
Bethlehem	10	1	28	....	11
Braddock	2	.....	1	1	....
Bradford	2	194	2	....	2
Bristol	.....	.....	.....	....	....
Butler	.....	.....	3	....	1
Canonsburg	2	4	.....	....	....
Carbondale	2	4	.....	2	....

Locality	Cases				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Carlisle	1	.....	.....	....	....
Carnegie	1	3	1	....	....
Chambersburg	.....	.....	6	....	....
Charleroi	.....	1	.....	....	....
Chester	4	.....	1	....	....
Coatesville	1	.....	.....	....	....
Columbia	1	.....	.....	....	....
Connellsville	.....	.....	1	1	....
Dickson City	3	1	.....	....	....
Donora	2	38	1	....	....
DuBois	.....	1	4	1	5
Dunmore	.....	.....	.....	....	....
Duquesne	1	62	.....	1	....
Easton	1	37	.....	1	2
Erie	9	4	105	2	9
Farrell	1	.....	1	....	....
Greensburg	.....	8	.....	....	....
Harrisburg	4	.....	24	1	3
Hazleton	1	1	7	....	....
Homestead	3	1	1	....	....
Jeannette	1	3	4	....	....
Johnstown	6	1	9	....	1
Lancaster	3	173	3	1	30
Lebanon	2	.....	2	....	....
McKeesport	4	20	14	1	2
McKees Rocks	2	1	1	....	....
Mahanoy City	1	.....	.....	....	....
Meadville	1	.....	.....	....	....
Monessen	5	112	4	....	....
Mount Carmel	1	.....	.....	....	....
Nanticoke	1	.....	.....	1	....
New Castle	1	1	.....	....	....
New Kensington	1	.....	6	1	....
Norristown	2	1	2	....	....
North Braddock	1	1	4	....	....
Oil City	.....	.....	4	....	....
Old Forge	.....	.....	.....	....	....
Olyphant	3	.....	.....	....	....
Philadelphia	243	67	389	11	177
Phoenixville	.....	.....	2	....	....
Pittsburgh	338	1,230	173	2	97
Pittston	2	6	.....	....	....
Plymouth	6	3	2	....	....
Pottstown	1	.....	1	....	....
Pottsville	1	.....	8	....	....
Punxsutawney	2	.....	3	1	....
Reading	19	4	40	....	12
Scranton	60	2	17	1	11
Shamokin	22	.....	1	....	1
Sharon	.....	.....	.....	....	....
Shenandoah	1	.....	.....	....	....
Steelton	.....	.....	.....	....	....
Sunbury	.....	4	.....	....	....
Swissvale	23	5	10	....	1
Tamaqua	.....	.....	13	....	10
Uniontown	1	.....	2	....	....
Warren	.....	1	17	....	25
Washington	1	3	4	....	10
West Chester	1	3	1	....	....
Wilkes-Barre	13	160	16	....	10
Wilkinsburg	8	11	11	....	12
Williamsport	1	.....	3	....	25
Woodlawn	1	2	.....	....	14
York	2	.....	.....	....	3
Total Urban	884	2,225	1,056	30	502
Total Rural	419	904	1,017	78	371
Total State	1,303	3,729	2,073	108	873

INDUSTRIAL MEDICINE

Conference on Industrial Nursing.—On June 14, 1927, a Conference on Industrial Nursing was held by the State Department of Labor and Industry coöperating with the State Department of Health, at Harrisburg, Pa. The following abstracts are taken from a report of this conference recently published by *Labor and Industry.*

Directory of Industrial Nurses.—Nursing service and medical care in industry received a new impetus in Pennsylvania as the result of the Conference, where more than 200 representative industrial nurses, medical directors, employers, and state officials met and discussed the needs and opportunities of this important phase of industrial progress.

The Department, feeling the importance of maintaining and enlarging the contacts which it has made with industrial nurses throughout the State, has compiled a directory of establishments in the Commonwealth known to employ industrial nurses. This preliminary directory has been made with the knowledge that it is incomplete, but with the hope that by issuing it other industrial nurses and other establishments not included will offer the Department an opportunity to have their names added to the list. The directory is available to all persons interested in receiving it, and should be of special value in offering health organizations, as it offers the Department of Labor and Industry, an opportunity to distribute through these nurses information important not only to them but to the large number of industrial workers with whom they come in daily and personal contact.

Industrial Nursing and Safety From the Point of View of the Medical Director.—That part of any safety program in which industrial nursing is to be considered will vary with the nature of the industry and of the nurse employed. In many, in fact most industries, where nurses are employed, safety work is a secondary duty of the nurses as seen from the viewpoint of industry. Just how much safety work the nurse will do will depend on her own initiative and knowledge of plant conditions and on her desire to help in a big human conservation program. The place of the nurse in industry is hard to define, as it must needs vary with the industry, but any nurse who confines her work to bandaging cuts and making supplies is missing the golden part of her opportunity. No safety program can be properly carried on without aid from the medical department, and no medical department can carry on without the nurse. Industry needs nurses, but nurses of a certain type and ability. The term nurse should be restricted to those who are graduates of recognized training schools. Only graduate nurses are being considered for industry. There is no place for the nurse who simply takes the job for the salary. To be of any value to an industry, the nurse should know something of the processes of that industry, the more so if she is to help in any safety program. A nurse who is allowed the privilege of studying the industry will, providing her records are well kept and used, become increasingly valuable to all her contacts. She must be a woman who can work with all people and coöperate with all other departments for the good of the work. Above all, must she work with the doctor, the safety and employment men, and the foremen of the shops. She must remember that she was trained as a nurse, not as a doctor, and no well-trained nurse will assume

the responsibility for the doctor's work. She should be adept in meeting certain emergency measures, such as shock, hemorrhage, artificial respiration, preparation for transportation, heat, exhaustion, and stroke.

Industrial Nursing and Safety From the Point of View of the Industrial Nurse.—Industrial nursing, like industrial medicine, has developed into a new specialty in the nursing field. In 1895, a firm in Vermont employed a trained nurse to visit the homes and to care for sick and injured workers. Later a department store in New York City employed a nurse to visit and distribute the funds of the benefit association. It was believed that her nursing experience would enable her to do this work well, as she could reduce malingering, but no thought was given to her ability to help in any other way. Her experience showed the numerous ways in which her services might be used.

In a study made previous to 1910, there were found to be only 66 firms employing graduate nurses. The first employees' compensation act was passed in 1911. Since that time, the passage of our own Pennsylvania Workmen's Compensation Act in 1915 and the adoption of similar laws in most of the states have brought forth a great growth in industrial medicine and surgery. Industrial medicine is no longer in its infancy, and with the establishment of well-organized medical departments, the industrial nurse has made a real place for herself in industry. And yet there are no fixed standards for the industrial nurse. The profession is trying to meet the call for trained workers, with few to respond.

The industrial nurse usually has an entrance to industry through the first-aid department, but her value to industry is shown by applying her services to every phase of health work among the employees. Her daily routine consists of first-aid work, assisting with physical examinations, taking care of employees sent to the rest room, calling employees for reëxamination, visiting absentees, making outside visits when requested to do so by the foreman or the employee himself, giving health instructions in the home, health talks in the plant, and arranging for hospital or clinical care. What she will not do is this: she will not practice medicine, nor encroach upon the field of the physician; she will not give relief except as a makeshift in cases of great need; she will not be a detective. She is useless in any capacity except as she is an interested, confidential friend and teacher.

Industrial Nursing and Safety From the Point of View of the Employer.—To render the maximum value, the selection of a nurse is vitally important. Her experience should consist of training in a good general hospital, as well as experience in public-health nursing. She should have a strong and likable personality, well-developed social sense, common sense, creative ability, vision, and love of humanity. It is practically impossible to define the duties of a nurse in industry.

Industrial Nursing and Safety From the Point of View of the Safety Director.—Safety must be sold to the management and employees; it must be talked about by the foreman. The bulletin board must be used continuously with new material, giving information through pictures of accidents showing the right way and the wrong way of doing work. There must be competitive contests between departments, and in large organizations, between plants, "no-accident" weeks and months, lectures, and movies. Safety committees should go through the plant and handle the various problems of inspection for mechanical defects, fire hazards and fire prevention, sanitation, ventilation, lighting, and general housekeeping. In all of this work the industrial nurse plays a most important part. In smaller plants, where the surgeon is employed only part time, the nurse becomes the leading spirit in the plant, providing she is the right type of person. There is a large field, and she has an opportunity for service of real constructive character. She has an opportunity to do valuable individual safety and accident-prevention work through her daily contact with the employees. A successful nurse can mingle with the men, gain their confidence and respect, and have a great influence in their conduct both in and out of the plant. After the men realize that she is there to help them and their families, they begin to drop into the hospital to tell their stories of a sick wife or child and ask her to stop at their home to see the sick person. The best results are obtained when the nurse demonstrates her teaching or instructions by use of the facilities provided in the home, making some member of the household responsible for the care of the patient until her next visit.

Industrial Nursing and Safety From the Point of View of the Factory Inspector.—How can the nurse help in the general accident-prevention work of the State? Contrary to popular opinion, the factory inspector is not the chief police officer of industry. He is a coöperative means of transferring to individual plants the experience which is gained by safety directors in carrying on the work in a particular plant. One of the big factors in reducing accidents is accident-investigation work, and that is where the nurse has the closest contact with the inspector. Experience shows that success in general reduction of accidents in the State is gained through investigation of individual accidents rather than through general routine inspection work. If an inspector appears on the job quickly after an accident and learns the experience which that particular plant has obtained as a result of that accident, he is in a better position to go into the next plant and tell the management what to look out for than he would be if he simply went around looking for violations of regulations.

Therefore, one relationship to the nurse, especially those nurses who are not connected with plants having safety directors and who keep the accident records, is very helpful to the inspector. He wants to be able to go to the nurse and ask her where she is having the most accidents, in what particular department, and what particular processes are causing these accidents. He wants to know this, not so that he can issue an order to correct deficiencies for violations of regulation, but in order that he may get from the nurse her experience in handling those accident cases, that he may tell others in the State what she has been able to do to combat the things which have caused the accidents. This is the proper relationship between the industrial nurse and the Department of Labor and Industry. In summing up, therefore, the two points that should be emphasized as constituting the relationship between the factory inspector and the industrial nurse are: first, the information regarding safe-practice methods of individual employees that the nurse can give the inspector through her close contact with the injured employee; and second, the transmission of information regarding general industrial conditions which she has gained from accident investigation.

The Training of the Industrial Nurse in Relation to Her Employer.—The relationship of an industrial nurse to her employer varies with the size of the industry in which she is employed. In many large plants she is strictly a surgical-dispensary nurse, and does not have the time nor the opportunity to become so well acquainted with her employer's policies as a nurse in a small plant. Just as he realizes that there must be an engineering or a bookkeeping department to make up an efficient organization, so will he realize that there must be a department to handle the health and social side of the individuals. It is for this reason that more and more employers are asking for a socially as well as a professionally trained nurse. A nurse in this capacity must act as an intermediary between the employer and his employees. She must impress her employer with her ability to talk with the employees, and to visit their homes and establish a spirit of good will and a willingness to aid in any of the problems that are before them. She must give to the family the knowledge that the employer is interested in them. The employer knows that this interest will form a tighter bond of loyalty between his employees and himself. She must give her employer a clear view of conditions as she sees them. This he has a right to expect, as he cannot make a personal survey of every situation. She must feel free to talk over her work with him, as reports are of little value when the day's duties are made up of so many intangible jobs. She must make her own job. She must not be afraid to deviate from the so-called professional rôle. She must be interested in all questions and willing to do her best and help in any difficulty which may arise. A nurse, who will day after day dress an injured finger without showing any interest in the individual to whom that finger belongs, is not doing a good job for her employer. She is lying down on the job. If she shows an interest in her patient as an individual, she will gain his confidence and learn that his wife is ill, or that his children need their tonsils removed, and that this is worrying him so that he cannot do his best work. By visits to the homes, these cares can be directed into the right channels and a healthier, happier atmosphere created.

The Training of the Industrial Nurse in Her Relation to Her Coworkers in the Establishment.—An industrial nurse must have a healthy, vigorous body, an understanding mind, and an adaptable disposition. A coworker needs a friend who holds his confidence and is able to interpret to him the good will of his employer. A nurse will learn much from her associates or coworkers. It is true that they may also learn from her, but her popularity will not suffer by suppressing, in her dealings with her coworkers, her desire to teach. She will best obtain their liking, respect, and coöperation by showing plainly that she has no wish to do their work nor to show them how to do it, that she is a nurse first, and that if she attempts other work it is only because at the time there is no one else better fitted to carry it through.

The Training of the Industrial Nurse in Her Relation to the Physical Equipment of the Plant.—Perhaps the most worthy job which the industrial nurse can assume is that of head janitress, perhaps not head janitress in name, but head janitress in fact. We would not ask that the work room have the immaculate appearance one almost invariably finds in the clinic, but we would expect that any establishment far-sighted enough to employ an industrial nurse will be open-minded to the suggestions of that nurse regarding the maintenance of sanitary conditions in the plant. The mere knowledge that the nurse in her immaculate uniform will daily inspect the toilets and dressing rooms in the establishment will in itself instill the desire on the part of the employees to help keep these places in better condition.

Probably the most effective health measure which can be instigated in plants, particularly where women are employed, is the adoption of proper seating facilities for the employees. Are the nurses giving as much consideration as they might to whether or not girls who are coming to their clinic for treatment are employed on operations at which they stand the major part of the day, but operations which with a little thought could be done when seated? And do the nurses give enough consideration to what is used as a seat? Are we to be satisfied with the round, backless stools which are so frequently found in industrial plants, or can the nurse play her part in installing the idea that new seating equipment, at least, shall be composed of chairs with adjustable backs, with seats which are wide enough for comfort and adjustable as to height.

My work takes me regularly into factories. I am more and more impressed with the strides that are being made toward expert factory management, factory management which considers not only the mechanical equipment but the human element in the plant. To me, the outstanding lack in our plants at the present time is one which the industrial nurse by training and by temperament is best able to supply—that of common sense housekeeping, of making the plant a more pleasant place in which to work, cleaner, lighter, more comfortable.

The Training of the Industrial Nurse in Her Relation to the Mother in the Home.—Pennsylvania loses every year more than 1,200 mothers from causes surrounding childbirth. There has been no lowering of the maternal death rate in the last twenty years; in fact, it has increased slightly. Those who are in industrial work realize that they are dealing with people who come from homes where there are likely to be larger families than in some other groups, where the children number three, four, five, or six, and sometimes many more. It is especially pertinent, therefore, to ask whether unnecessary mother-deaths are affecting the kind of products a plant is turning out, whether the men are carrying burdens on their minds and hearts while they are doing things with their hands. It does make a difference how they have left the mother in the home, whether well or ill, as to what they will that day produce. There is no more burning question today anywhere, among rich people, among people of comfortable circumstances, and especially among the poorer people, than how babies can be brought into the world most safely and mothers saved from needless death.

The Training of the Industrial Nurse in Her Relation to Her Fellow Nurses in the Community.—Coöperation is the keynote of organization. Up until recent years the industrial nurse in Philadelphia was as a nomad in the field of industry, not because of the lack of interest on the part of those in the field, but rather because she was unaware of the number of other nurses in industry. So a few enthusiastic nurses agreed to a meeting, and the unit of the present Industrial Nurses' Association of Philadelphia and vicinity was formed during the year of

1925. The objects were to become acquainted with all nurses in the field, to obtain an interchange of ideas and experiences, and to standardize the training of nurses in industry.

HOSPITAL ACTIVITIES

May Surgeons Operate Without a Signed Permission?—This question was asked because in a certain institution, a surgeon demanded that he be permitted to proceed with his operation, even though no permission had been obtained from the patient. The patient's operation was not an emergency one. The head nurse in charge of the operating room refused to prepare for the operation, because no signed permission was in evidence. There is much justification for a rigid enforcement of the rule covering this point. In one instance, an ethical surgeon was repeatedly threatened throughout his whole professional life by relatives of a patient upon whom he had operated without having a signed permission from authoritative persons. Hospital superintendents on not a few occasions have been confronted with the statement that an operation was performed upon one of their patients without permission. Fortunate are they who are always able to produce a signed agreement allowing the surgeon to operate.

In cases of emergency, the superintendent usually is authorized by his board to permit the operation to go forward, even without a signed permission, the superintendent standing in the place of the parent in so far as the patient is concerned. In cases where there is no urgency, and where the operation permission has not been procured because of oversight or negligence on the part of some hospital officer, it would seem perfectly justifiable to require that the permission be signed before the anesthetic is started. This is particularly true in cases of unconsciousness or where the patient is not of age. Usually the permission of a relative can be obtained without great delay. In the above instance, it seems that the superintendent of the hospital should lay the danger of proceeding without an operation permit before the surgeon, and in case he refuses to delay the operation, the superintendent certainly has the authority to require that the hospital be fully protected under the circumstances.—*Modern Hospital.*

Resolutions of the American Hospital Association.—The following items are culled from the report of the Resolutions Committee of the American Hospital Association for 1927:

In view of the crying need for improvement in the situation of the colored hospitals of this continent, it was recommended that the resolution be adopted that the Association establish a special committee to assist in conjunction with representatives of the American Medical Association and the American College of Surgeons to further the establishment and maintenance of the best possible conditions in our colored hopitals. The committee recommended to the board of trustees that the necessary funds be appropriated for the work of this committee.

A close affiliation between the American Hospital Association and the hospital associations of Latin American countries is highly desirable, and in accordance with the recommendation of the president, it was resolved that the trustees and the executive secretary use every possible means to interest the hospitals of Latin America in the work of this Association and otherwise to establish such affiliation.

A resolution was adopted that hospital members which are listed by the Council on Medical Education and Hospitals of the American Medical Association as suitable for intern training shall be requested not to hold examinations or to appoint interns until after March 1st of the graduating year. When a hospital appoints an intern, the resolution reads, it shall send the following information to the secretary of the American Hospital Association: name of intern, home address, school and year of graduation, type of internship, date of beginning of internship. If the intern, after appointment, seeks to leave one hospital and to accept appointment at another, the secretary shall notify both hospitals and the medical school which the prospective intern is attending, stating that the American Hospital Association disapproves of such changes unless sanctioned in writing by the hospital making the antedated appointment.

New York's Hospital-Building Program.—According to the *Mental Hygiene Bulletin,* major projects under the new hospital-construction program in New York State include the erection or enlargement of fourteen hospitals for mental diseases and five schools for mental defectives, which will provide over 12,000 additional beds for patients. Bond issues totaling $465,000,000 have been authorized for public improvements throughout the State, and up to the present $42,475,000 in bonds have been sold to meet the costs of improvements made. In defending his policy of raising funds by bond issue, Governor Smith has made the following statement: "Practically no overhead expenditures connected with the work of construction are today paid from current revenue. All equipment for new buildings, whether they be prisons, schools, hospitals, or other structures, is paid for from current revenue. Bond money goes into nothing but actual construction, and in some instances, the purchase of land."

The Hospital Ambulance.—If the hospital ambulance could tell its story, what tales of pathos and pain, of hope and joy, or even of humor, it could relate! To some, the arrival of the ambulance means the advent of the dreaded moment of separation from loved ones. To many others it signifies that the door of hope for the relief of dear ones has been flung wide. And how true it is that the deportment of ambulance attendants, and even the physical appearance of the conveyance itself, establish or shake the confidence of friends and relatives in the wisdom of intrusting the safety of the sick person to the hospital.

And what a tale of narrowly averted traffic accidents it could tell; of its rush with clanging bell through crowded city thoroughfares; of the unnecessary speed at which the rash driver forced it to travel; of ruthlessly passing red traffic signals, when no need for haste existed! And most ambulances would without doubt consider their dignity offended if the doctor in charge took along, just for the ride, one or more of his colleagues, or if the nurse on duty invited her friends to accompany her. And how a proud ambulance must be humiliated when it is required to haul express and groceries! For the ambulance is in reality a movable part of the hospital, with a definite purpose to fulfill in the practice of the science and art of healing, and it should favorably reflect the dignity and humanity of the institution whose name it bears.—*Modern Hospital.*

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

Officers' Department

A. C. MORGAN, M.D., Sc.D., F.A.C.P.
President
2018 Chestnut Street,
Philadelphia, Pa.

CO-OPERATION

We note with approval the occurrence of joint meetings between county societies and affiliated dental and pharmacy associations throughout the State. This is as it should be.

The constitution of the State Society provides for associate membership of graduates in dentistry, and there are signs of activity looking forward to the acceptance of many high-grade graduates in pharmacy. Closer coöperation between these three branches of the healing art makes for community interest and protection of the health and lives of the citizens of our State.

There is likewise no bar to the admission of graduates of eclectic or homeopathic colleges who are qualified to practice medicine in this State. This happy adjustment was made many years ago, and we are pleased to report in this respect that harmony and equity prevail. We have frequently noted with pleasure the election of graduates of such colleges to the presidency and secretaryship of county societies, and in each instance there has been splendid fulfillment of the duties accepted by them, indicating that the bars and barriers of years past have been effaced.

At this time it is proper for the medical profession to see that its house is kept in order and that unanimity of purpose shall be its guiding motive in order to offset the baneful effects of the several cults that have recently taken on pernicious activity and by their sophisms and loud speaking have clouded the issue as to the real merits of their claims.

It is recommended that our members in the northeastern section of Pennsylvania shall be present in large numbers at the February meeting of the Freeman Commission, which will be held in Scranton, the date to be announced later.

It is also recommended that representative citizens as well as members of or candidates for the State Legislature shall be invited by physicians to attend the Scranton hearing in order that they may note for themselves the type of individuals who lay claim to equality with the members of the medical profession in respect to training, medical education, and professional capacity.

There is much work lying immediately ahead, and it will be necessary for us to rally all of our friends to support us in our endeavor to sustain and maintain the laws of the Commonwealth and to protect our citizens from the dangers of false doctrines and prophets.

At this time we desire to commend heartily the splendid work that has been accomplished by the Committee on Public Health Legislation under the able chairmanship of Dr. Paul Correll.

A recent report by this committee is in the hands of the county secretaries, and request is made that it shall be read at your next meeting, then referred to the local Committee on Public Policy and Legislation, who should act upon the report and recommendations and communicate direct with Dr. Correll, offering suggestions or recommendations to this important committee. Please do not allow this matter to be overlooked.

Coöperation—not Condemnation
Colleagues—not Competitors

Discrimination in Federal Tax Legislation.—A bill to amend the Revenue Act of 1926 is pending in the U. S. Senate. Write to your senators at once asking that the discrimination against the profession be removed. A physician attends medical meetings to maintain and increase his efficiency, and should have the right to deduct as an expense of practice the cost of attendance. Denial of this right places a tax on professional efficiency, and is a hindrance which must react to the detriment of the patient and the public.

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade Building
Pittsburgh, Pa.

FACTS MISREPRESENTED BEFORE A FACT-FINDING COMMISSION

The brief presented to the Freeman Commission by the Pittsburgh Health Club, an organization officered by and enrolling optometrists, osteopaths, food faddists and antivaccinationists, under the heading "Wholesome Confessions," quotes in part from addresses delivered by well-known physicians. Subjects critically and constructively discussed in full are, when by piecemeal quotation separated from their context, distorted to the purpose of the writer of the brief referred to. When the attorney who prepared the brief of the Health Club included among "Wholesome Confessions" one he lifted from the presidential address of the late George W. Wagoner, M.D., president of our Society in 1909, he opened the way for his own undoing in public before the Freeman Commission at its Pittsburgh hearing.

Immediately preceding the quotation given in the brief, Dr. Wagoner had been discussing the faddist, the smatterer, the correspondence-school doctor—their cruel and harmful methods, their treatment prolonged while the patient's money lasts, and the waste of the "precious formative moments during which so many diseases may be checked, controlled, or cured." Immediately following the quotation, he used the words "a frenzy of action in the elimination of the incompetents from the ranks of those who assume to care for our health and lives. Conditions would soon be changed, the public would be aroused, educational requirements, medical laws would be enacted which would speedily diminish the slaughter of the innocents. What years of study might *then* be exacted? What proofs of knowledge and skill might *then* be required?"

One who reads with honest purpose Dr. Wagoner's address made nineteen years ago realizes that he was leading the members of the Medical Society of the State of Pennsylvania in their fight against the pretenders of his day, which fight was begun in 1889 and climaxed in 1927 in the creation of the Freeman Commission.

Dr. Alex. H. Colwell, in his presentation before the Commission, cleverly turned the full strength of Dr. Wagoner's *complete* statement against the *incompetent pretenders* of 1927; namely, the approximately seven hundred illegal practitioners comprising the Pennsylvania Chiropractors' Association, who were represented before the Commission by the attorney who represented the Pittsburgh Health Club.

The quotation from Dr. Wagoner's address, under the heading, "Wholesome Confessions," follows verbatim as it appears in the Health Club brief:

"If the mighty host of those who have been rushed to untimely graves by . . . physicians could be marshalled into an army and marched in ghastly review before the astonished eyes of our indifferent legislators, what a ghost-like multitude of outraged victims there would be! One which would appeal by its magnitude and horror, and excite the law-makers into a frenzy of action. . . ."

The missing words in the second line are *incompetent, pretending.*

THE FREEMAN COMMISSION

The plan adopted by the Freeman Commission for its public hearing in Pittsburgh—that is, replies by those appearing before the Commission to printed questions submitted in advance—resulted, from the point of view of the lay attendant, at least, at the hearing, in the almost complete submergence of the crux of the subject under discussion. Presuming that the real question being studied by the Commission is that of safeguarding the public from the practice, in any branch of the healing art, of any but those who have proved to the satisfaction of the State their educational qualifications to treat the sick, one wonders why the Commission would submit to the representatives of the "allopathic and homeopathic schools" the following question: "To what extent would abdominal operations and tonsillectomy become less popular if fee-splitting were abolished?"

At least seventy-five per cent of the questions submitted by the Commission to the abovementioned group were equally irrelevant. Ponder question 15, for instance: "Do certain of the manufacturers of medicine and supplies contribute large sums directly and indirectly in advertising drug-and-knife therapy?" The inspiration for such questions no doubt originated with the members of the Commission, three in number, who are graduates of an osteopathic or chiropractic school; two of these three members, said to be graduates of a chiropractic school located in Pennsylvania, chartered in the District of Columbia because it cannot meet Pennsylvania's qualifications, are practicing the healing art illegally and without license.

Fortunately, some questions addressed to "State Associations" were worthy of the high

purpose for which the Commission is created. For instance, question 8 addressed to representatives of "State Associations," asked: "Since there are boards that pass upon some schools of the healing art, what reasons are there that should prevent the creation of boards that would standardize the other schools?" Standardization by multiple boards of various systems of treatment of human illness is impracticable. The State of Pennsylvania does not have multiple licensing standards for nurses, dentists, veterinarians, lawyers, or for milk or food supply.

It is to be hoped that the Commission in all its studies and in its subsequent recommendations to the Legislature will constantly hark back to the paramount interest; that is, the health of the people of Pennsylvania, and adhere to an admittedly fair, single educational standard, that all who seek license must be equally educated in the basic medical sciences essential to a correct diagnosis and the proper application of any form or system of treatment. To solve this problem should present no fundamental difficulties since numerous representatives of the various naturopathic and chiropractic colleges have proudly testified before the Commission that their students are instructed in anatomy, physiology, chemistry, pathology, bacteriology, and physical diagnosis from the same textbooks used in all medical colleges. The dean of the Universal Chiropractic College in Pittsburgh stated before the Commission that the only book used for the purpose of instructing students in their school that differed from those used in medical colleges was the single textbook by Loban on the therapeutic application of chiropractic technic. Facing these facts, should it be necessary to make any change in the present practice act in Pennsylvania, except to provide in the examination for those seeking license to practice naturopathy or chiropractic for a few questions submitted, through the present constituted board, by licensed chiropractors regarding the application of chiropractic therapeutic principles?

THE 1928 HONOR ROLL

On January 23, 1927, the State Society dues for 1,183 members had been received at the office of the Secretary; on the same date this year, the dues of 1,738 members had been received. This great improvement over the good record of 1927 is the result of energetic efforts on the part of the officers of certain county societies mentioned below, and is an expression of appreciation of the value received on the part of 1,738 members. The expression of value received includes the invaluable service which any of us may find it necessary to call upon at any time—the Medical Defense Fund. If the payment of your county society dues is delayed until after March 31st, you will not be entitled to the assistance of the Medical Defense Fund in the conduct of any suit for alleged malpractice which might at any time be brought against you by a patient who had been under your care from December 31, 1927, until the date of the payment of your 1928 dues.

Fifty per cent or more of the members of the following county societies have paid their 1928 dues:

Elk County 100%; Wyoming 100%; Monroe 95%; Susquehanna 79%; Montour, 77%; Union 72%; Schuylkill 70%; Wayne 70%; Montgomery 63%; Adams 60%; Perry 60%; Columbia 57%; Delaware 57%; Mifflin 55%; Lycoming 53%; Northumberland 52%; Clarion 50%; Franklin 50%.

In addition to many members from Allegheny County, the following were noted in attendance at the hearings held before the Freeman Commission in Pittsburgh, on January 16 and 17: Dr. Jefferson H. Wilson, Beaver County; Drs. J. J. Meyer, Edward Pardoe, and H. W. Salus, Cambria County; Dr. Harry J. Bell, Fayette County; Drs. Chas. H. Bee, B. F. Coe, R. M. Lytle, J. M. Torrance, Wm. F. Weitzel, Indiana County; Dr. F. J. Bishop, Lackawanna County; Dr. Frank G. Hartman, Lancaster County; Dr. Chas. F. Flannery, Lawrence County; Dr. Chas. J. Hemminger, Somerset County; Drs. Charles L. Harsha and J. C. Kelso, Washington County; Drs. Chas. D. Ambrose, A. R. Megahan, Thomas St. Clair, and C. E. Taylor, Westmoreland County.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to January 15:

ALLEGHENY: *New Members*—John J. Bernhard, Magee Hospital, Mayer S. DeRoy, Schenley Apartments, Jennings M. King, Jr., Highland Building, William E. Kramer, 420 Third Avenue, Mildred N. Nelson, 331 S. Evaline Street, Joseph L. Potter, 5734 Forbes Street, Theodore M. Redman, 949 Washington Boulevard, John S. Saling, 2320 Carson Street, Pittsburgh; M. A. Sherman, 1100 N. Canal Street, Sharpsburg; Glenn O. Smith, 1735 Chislett Street, Arthur B. Thomas, 121 University Place, William F. Weaber, 4614 Fifth Avenue, David B. Wolfe, 3607 California Avenue, Pittsburgh; Marlow C. Wolfe, West Elizabeth. *Resignation*—Willard E. Austen, Aspinwall. *Deaths*—John F. Haben, McKeesport (Bellevue Hospital Med. Coll. '92), November 26, aged 63; Frank S. Pershing, Wilkinsburg (Jefferson Med. Coll. '79), September 22, aged 75; August Soffell, Pittsburgh (Univ. of Pgh.

'04), December 30, aged 55; George H. Vaux, Pittsburgh (Univ. of Pgh. '95), December 26, aged 60.

BERKS: *New Member*—Kenneth P. Lanz, 825 N. Fifth Street, Reading.

BRADFORD: *New Member*—Harold W. Smith, Packer Hospital, Sayre.

BUCKS: *New Members*—Clyde R. Flory, 27 Temple Avenue, William J. Wilkinson, Sellersville. *Death*—Charles B. Smith, Newtown (Jefferson Med. Coll. '84), December 11, aged 64.

CLEARFIELD: *New Member*—Francis S. Mainzer, 219 S. Second Street, Clearfield. *Death*—Francis W. Harper, Irvona (Coll. of Phys. & Surgs., Baltimore '96), January 3, aged 63.

CUMBERLAND: *Transfer*—Edward A. Haegele, Mechanicsburg, from Indiana County Society.

DAUPHIN: *Deaths*—John C. DeVenney, Harrisburg (Jefferson Med. Coll. '88), December 22, aged 71; Charles E. L. Keen, Harrisburg (Coll. of Phys. & Surgs., Baltimore '91), December 20, aged 61.

DELAWARE: *New Member*—Frank O. Hendrickson, Springfield (Media P. O.).

ERIE: *New Member*—R. Varnum Jones, 221 W. Ninth Street, Erie.

FAYETTE: *Death*—Harold J. Byron, Connellsville (Jefferson Med. Coll. '20), January 6, aged 31.

FRANKLIN: *Reinstated Member*—John M. Gelwix, 51 S. Second Street, Chambersburg. *Death*—Samuel B. Thomas, Waynesboro (Jefferson Med. Coll. '11), August 5, aged 42.

LANCASTER: *New Members*—Henry J. Roddy, Jr., 645 W. Chestnut Street, Lancaster; Harold K. Hogg, Quarryville. *Resignation*—Andrew J. Hesser, Otisville, New York (to join Queens County Medical Society, New York).

LAWRENCE: *Death*—Thomas V. Williams, New Castle (Coll. of Phys. & Surgs. '92), December 21, aged 65.

LEHIGH: *New Members*—William Barr, Allentown Hospital, Michael Fresoli, 414 Ridge Avenue, Allentown; Luther H. Kline, Cementon; Eugene H. Mohr, Jr., Alburtis; Marvin K. Rothenberger, 118 N. Eighth Street, Allentown. *Removal*—William F. Matthews from Allentown to Ernest (Indiana Co.).

LUZERNE: *New Members*—Alexander H. Dean, 114 Old River Road, Buttonwood Hts., Ambrose V. Sloan, 11 S. Grant Street, Wilkes-Barre; R. H. Stroh, 270 Wyoming Avenue, Luzerne. *Death*—James Brooks, Plains (Northwestern Univ. '77), October 18, aged 71.

McKEAN: *Removal*—George W. Cummings from Colegrove to Eldred.

MIFFLIN: *Reinstated Member*—Vincent I. McKim, Lewistown.

MONROE: *New Member*—Floyd Randall, Pocono Manor (Winter address—Useppa Island, c/o Tarpon Inn, Florida).

MONTGOMERY: *New Member*—George W. Sharshon, 202 Washington Avenue, Phoenixville.

MONTOUR: *New Member*—Edward C. Crowl, Elysburg (Northumberland Co.).

NORTHAMPTON: *New Members*—Samuel N. Comens, 532 E. Fourth Street, Bethlehem; Merritt L. Hockenberry, 104 S. Second Street, Bangor; Donald C. Richards, 302 Brodhead Street, Easton; Dudley P. Walker, Third and Cherokee Streets, Bethlehem. *Transfer*—Samuel Stouman, 1221 E. Fourth Street, Bethlehem, from Bucks County. *Death*—Edwin L. Smock, Bath (Jefferson Med. Coll. '78), December 4, aged 69.

NORTHUMBERLAND: *New Member*—Joseph J. Mullen, 1200 Chestnut Street, Kulpmont.

PERRY: *Removal*—George H. M. Bogar from Liverpool to Selinsgrove (Snyder Co.).

PHILADELPHIA: *Deaths*—William C. Hollopeter, Philadelphia (Univ. of Penna. '77), December 6, aged 73; Joseph Solis-Cohen, Philadelphia (Univ. of Penna. '60), December 22, aged 90.

SCHUYLKILL: *New Members*—Howard A. Lichtenwalner, Schuylkill Haven; Benjamin F. Lizio, 35 Federal Street, Beverly, Mass; Raymond H. Stutzman, Tower City; Lewis Taylor, 103 Broad Street, Lynn, Mass. *Removal*—John M. West, Tamaqua, to Quincy, Ill. (resigned to join Illinois State Society).

SNYDER: *New Members*—Elmer R. Decker, Howard F. Straub, Selinsgrove.

TIOGA: *Reinstated Member*—Orrin S. Nye, Rutland.

WASHINGTON: *New Member*—Stacey H. Rinehardt, 33 W. Chestnut Street, Washington. *Reinstated Member*—Charles B. Wood, St. Petersburg, Fla.

WESTMORELAND: *Transfers*—John T. Allison, Logan Trust Building, Joseph G. Alter, Broad Bldg., Albert J. Bearer, 1017 Fifth Avenue, Prentiss A. Brown, 859 Fourth Avenue, Herbert Elliott, 901 Fifth Avenue, Michael E. Farah, Logan Trust Building, Robert C. Johnston, Trust Building, Albert S. Kaufman, Alter Building, New Kensington; N. A. Kopelman, Arnold; George L. Krieger, First National Bank Building, G. T. Lamon, 816 Fifth Avenue, Thomas E. McConnell, 901 Fifth Avenue, Warren T. O'Hara, First National Bank Building, Andrew G. Opinsky, 936 Stanton Avenue, Frank J. Pessolano, 876 Fifth Avenue, Elmer N. Piper, 901 Fifth Avenue, New Kensington; Charles H. Smith, Arnold; Marchand M. Snyder, 261 McCargo Street, Garrett E. Sprowls, 1000 Fifth Avenue, Joseph M. Steim, Fifth Avenue & Ninth Street, Leyden F. Wilson, 421 Fifth Avenue, Raymond N. Wilson, 901 Fifth Avenue, New Kensington, from Allegheny County. *Death*—Joseph H. Ringer, Jeannette (Univ. of Pgh. '88), December 2, aged 74.

YORK: *New Member*—Francis B. Jennings, 150 S. Duke Street, York.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since December 16. Figures in the first column indicate county society numbers; second column, State Society numbers.

For 1927					
Dec.	16	Washington	140	7720	$2.50
		Bradford	39	7721	5.00
	20	Tioga	30	7722	5.00
Jan.	3	Schuylkill	160-163	7723-7726	20.00
For 1928					
Dec.	16	Washington	1-13	234-246	65.00
	20	Montgomery	29-47	247-265	95.00
		York	1-17	266-282	85.00
		Montour	2-15	283-296	70.00
		Huntingdon	2	297	5.00
	22	Franklin	4-10	298-304	35.00
	26	Wyoming	1-6	305-310	30.00
		Montour	16-17	311-312	10.00
		Northampton	1-31	313-343	155.00
Jan.	1	Lancaster	1-4	344-347	20.00
		Luzerne	7-9	348-350	15.00
		Lehigh	1-11	351-361	55.00
	3	Dauphin	3-4	362-363	10.00
		Perry	1-9	364-372	45.00
	6	Greene	1-22	373-394	110.00
		Montour	18-19	395-396	10.00
		Bedford	1-5	397-401	25.00
		Northumberland	4-16	402-414	65.00
		Schuylkill	91-100	415-424	50.00
		Monroe	1-15	425-439	75.00
		Montgomery	48-88	440-480	205.00
	9	York	18-38	481-501	105.00
		Cambria	1-27	502-528	135.00
		Fayette	1-25	529-553	125.00
		Somerset	4	554	5.00
		Mifflin	8-14	555-561	35.00
		Adams	10-14	562-566	25.00
		Bedford	6-7	567-568	10.00
		Lawrence	1-12	569-580	60.00
	12	Delaware	1-42	581-622	210.00
		Delaware	43	623	2.50

Jan. 12	Juniata	1-2	624-625	$10.00
	Clarion	11-13	626-628	15.00
	Montour	20	629	5.00
	Wyoming	7-11	630-634	25.00
	Dauphin	5-20	635-650	80.00
	Snyder	1-4	651-654	20.00
	Allegheny	1-3, 5-10, 21-200	655-843	945.00
16	Lycoming	20-61	844-885	210.00
	Clearfield	1-20	886-905	100.00
	Montgomery	89-107	906-924	95.00
	Cambria	28-49	925-946	110.00
	Bradford	1-20	947-966	100.00
	Erie	1-64	967-1030	320.00
	Luzerne	10-34	1031-1055	125.00
	Cumberland	2-14	1056-1068	65.00
	Northumberland	17-25	1069-1077	45.00
	Columbia	14-20	1078-1084	35.00
	Center	1-6	1085-1090	30.00
	Armstrong	1-25	1091-1115	125.00
	Delaware	44-60	1116-1132	85.00
	Schuylkill	101-110	1133-1142	50.00
	Northampton	32-34	1143-1145	15.00
	Montour	21	1146	5.00
	Bucks	2-31	1147-1176	150.00
	Mifflin	15	1177	5.00
20	Union	1-8	1178-1185	40.00
	Lawrence	13-16	1186-1189	20.00
	Center	7-12	1190-1195	30.00
	Lehigh	12-23	1196-1207	60.00
	Northumberland	26-33	1208-1215	40.00
	Adams	15-16	1216-1217	10.00
	Cumberland	15-16	1218-1219	10.00
	Franklin	11-27	1220-1236	85.00

COMMISSION ON COMPENSATION LAWS

LEVER F. STEWART, *Chairman*
Clearfield, Pa.

HOSPITAL RULES ON COMPENSATION CASES

Since publication in the December JOURNAL of this Commission's request for information on the rules of hospitals governing the handling of compensation cases, a sufficient number of replies have been received to indicate that there is some difference of opinion among physicians on the subject, but the response has not been such as to give the Commission information of any statistical value. Since this question is of considerable importance to the profession, the Commission again requests *that each physician seeing this column please make it his business to see that the questions printed below are answered according to the rules of his particular hospital or hospitals, and forwarded to Dr. Lever F. Stewart, chairman of the State Society Commission on Compensation Laws, Clearfield, Pa.*

1. Name of hospital?

2. Does your hospital permit its staff physicians to make a charge for personal service to ward patients who pay the full ward charges of hospital?

3. Does your hospital permit or approve of staff physicians charging for personal service in compensation cases admitted to the wards?

County Society Reports

ALLEGHENY—NOVEMBER

The regular monthly program for November was given on the 20th, at the Pittsburgh Free Dispensary.

Dr. W. C. Bryant: Sacral-Block Anesthesia.—Nerve block differs from local anesthesia in that the solution is deposited some distance from the field of operation and inhibits the conductivity of the nerves supplying the regions where the operative procedures are to be performed. This method was called to the attention of the medical profession by Prof. F. Cathelin, of France, some twenty-five years ago, but only recently have American physicians taken it seriously.

The principles underlying the phenomena of regional anesthesia are clear. Briefly, the loss of conductivity of nerve fibers is produced by injection of the solution into the location where it will be absorbed by the nerve tissues, and thus reach the paths of conduction. Histologically speaking, nothing is definitely known of the exact channels through which it travels until the ultimate destination is reached—whether it is absorbed by the arterial supply or directly by the nervous system. In relation to this question, there is slight difference between anesthesia and analgesia, the latter meaning that condition produced by nerve block in which painful stimuli fail to reach the central nervous system. In the course of every injection it is best for the operator always to visualize what structures can and what ones cannot be affected by sacral block. All solutions should be fresh and sterile, with novocain as the drug of choice. In urologic practice more than 1.5 gm. is seldom necessary, and is within the limit of safety.

The preparation of the patient is simple. Breakfast is allowed, but when advisable, it can be omitted. An enema is routine. Morphin (¼ to ⅜ gr.) in divided doses should be given before the novocain injection. This is a most important part of the procedure.

The technic of operation is as follows: The patient is placed in a prone position with a pillow under the pelvis to raise the hips for location of landmarks—the sacral hiatus, which is defined as a triangular cornual spinous process of the fourth sacral vertebra. The hiatus is the result of the nonclosure of the lamina of the fifth and sometimes of the fourth sacral vertebra, and is the entrance to the sacral canal. It is usually located 2 cm. above the natal cleft. A spinal-puncture needle 10 cm. in length is introduced into the canal. The bevel of the needle is turned upward to avoid the posterior wall of the canal. The needle is inserted as far as the level of the second sacral foramen if possible. Aspiration is done to determine that the dural sac has not been entered. About 30 c.c. of a 2-per-cent solution is injected, 5 c.c. of which is deposited in the lower part of the canal.

Sacral block is indicated in cystoscopy, litholapaxy, lithotony, and stricture of the urethra. Failures are caused by bony irregularities or abnormalities interfering with the introduction of the needle, injection of solutions of improper molecular concentration, failure to inject the solution high enough, and injection of the solution into a vein. A note of warning is sounded against injection into the dural sac. This may prove fatal, and is dangerous at all times. Sacral-block anesthesia is an advance in medicine, and is especially convenient for use in poor surgical risks.

Dr. C. W. Elkin: The Nature of Carbohydrate Metabolism and the Mechanism of Insulin Effect.—Although the islet cells of the pancreas have been found

to be the chief structures altered in diabetes mellitus, the pathologic changes have not been in proportion to the severity of the clinical findings. These changes have also been found in diseases other than diabetes, especially in patients beyond 45 years of age. Regeneration of the islet damage has been noted only in exceptional cases, and probably it takes place only or chiefly in juvenile cases, and may be more or less proportional to the growth of the child. It is also probable that the influence of other organs on the pancreatic function has to be considered in carbohydrate metabolism. While much evidence is presented to show that insulin affects the glycogen storage in the liver and muscles, and possibly also changes the blood glucose stereochemically to stimulate combustion, yet it would seem that the more probable point of attack is the body tissue itself, the cells, through the action of insulin, creating a vacuum or avidity for the blood sugar. So far, the relative part played by diet itself and the question of increased tolerance on the part of the pancreas by the use of insulin and the amount of cell recovery from previous damage are unsolved problems. To settle these factors, considerable research will be necessary in spite of the fact that excellent work has been done to date.

Dr. L. H. Landon: Some Aspects of Diseases of the Biliary Tract and Their Complications.—The upper right quadrant may well be called the vital region of the abdominal cavity. The well-being of a patient is dependent upon the healthy functioning of the liver and its ducts and the pancreas and duodenum. Because of the anatomic relationship, it is obvious that disease of one is bound to be reflected by functional and organic disturbances in other members of this group. With the exception of neoplasms, all diseases of this apparatus are due to infection more than to any other cause, so that diseases of the adnexa are more or less dependent upon preliminary gall-bladder infection.

The function of the gall bladder is concentration and storage of bile, secretion of mucus, and regulation of pressure in the ductal system. The gall bladder is commonly infected, and its treatment and prophylaxis are important. It is rarely infected by way of the systemic circulation, but its intimate and extensive lymph connection with the liver offers a reasonable basis for most cases of cholecystitis. Cholecystitis plays no minor rôle in all infections of the upper right abdominal quadrant.

Diagnosis of the acute types is rarely difficult, but chronic disease is by no means easily identified. At present, laboratory methods are at the height of popularity. These methods are short-cuts, and stultify the clinical sense. The Graham test is not yet standardized and, while it may be valuable as confirmatory evidence, clinical judgment still remains the *sine qua non* of diagnosis. This is also true of the Meltzer-Lyon test. Another common problem is excessive bilirubin in the blood. It may result from numerous causes, and an early differentiation is necessary. Surgical jaundice is almost always associated with pain, while painless jaundice usually results from syphilis, carcinoma of the pancreas, or liver dysfunction. The van den Bergh test is useful in differentiation of these types.

The patient in this condition is always an operative risk. Preoperative calcium therapy has not been impressive. Unsatisfactory function of these organs is due to either incomplete or late operation. A plea is made for more common-duct drainage. Delayed operation means digestive invalidism and progressive ill health which cannot then be blamed on the surgery. Early and complete surgery is advocated here as elsewhere in infectious processes.

Dr. W. O. Markel: Abnormal Anteroposterior Contour of the Spine.—Abnormal contours are of three types: (1) Poor posture in which direction of the curve in each region is normal but excessive in amount, and in which compensation in the upright position is still present. (2) That in which the direction of the curve is abnormal in different regions, but in which the amount of anterior and posterior curve is such that compensation is still present in the spine itself. (3) That in which the direction of the curves is abnormal and compensation is not preserved in the spine itself, and balancing must of necessity be secured by changes in the relationship of the trunk to the lower limbs.

Type 1 is caused by anything which increases the normal anterior curve in the cervical region, the normal posterior curve in the dorsal region, or the normal anterior curve in the lumbar region. Type 2 is produced by conditions which cause a posterior curve in the cervical or lumbar region accompanied by changes in other regions so that compensation is retained. Type 3 is produced by conditions which act on the spine as a whole, and the contour is generally changed to one long posterior curve or rarely to one long anterior curve.

The effects of changed contour are as follows: In type 1 there are symptoms in the spine itself, due to putting abnormal stress and strain on structures not adapted nor intended for it. In type 2 there are symptoms in the thoracic, abdominal, and pelvic viscera from changes in the size and shape of the cavities containing them. In type 3 poor health comes on without producing any particular symptoms in the spine or viscera.

The treatment consists in readjusting the spinal contour to as near normal as possible, retaining it while at the same time removing any factor that has been a cause of or that is secondary to the abnormality. Spinal treatment is divided into three stages: correction of abnormal contour, breaking the habit of faulty compensation, and instituting the use of removable apparatus which is worn at all times, together with proper muscular and postural exercises.

L. G. Beinhauer, M.D., *Reporter.*

BERKS—DECEMBER-JANUARY

The final meeting of the Society for the year was held at Medical Hall on December 13th. There being no scientific program, the evening was devoted to routine business. The following officers were elected for 1928: President, C. F. Smith; first vice-president, O. E. Fox; second vice-president, S. B. Taylor; secretary, W. Wendel Becker; treasurer, F. P. Werner; librarian, R. L. Reber; reporter, Pearl E. Hackman.

Dr. S. B. Taylor declined reëlection to the board of trustees after fifteen years of faithful service. Dr. Clara Shetter-Keiser handed in her resignation as reporter after having served in that capacity for fourteen years. Dr. J. E. Livingood who for the past eight years has been a most capable secretary, presented his retiring address. Ten new members were taken in during the year.

More than sixty members were present at the January meeting to hear Dr. Hugh Young, professor of urology at Johns Hopkins University, Baltimore, Md.

Dr. Young outlined the anatomy of the prostate gland, then continued: The posterior layer of the gland tissue takes no part in hypertrophy, but is the site of beginning carcinoma. In old people the gland frequently

hypertrophies, and pressure on the urethra causes retention of urine. For this reason the gravity method for removal of bladder contents under pressure, with gradual release of the pressure, is best. With the upper border of the distended bladder three or four fingers above the symphysis, there is an approximate volume of 600 c.c.; when the bladder reaches the umbilicus, the contents measure 1,200 c.c. A low phenolphthalein output usually indicates high blood urea content. A normal phenolphthalein indicates a normal blood chemistry so far as urea is concerned, and is a perfect index for a safe operation.

Concerning the proper anesthesia for operations on the genito-urinary tract, much may be said. A general anesthetic is usually contraindicated on account of the age and cardiovascular changes occurring in these patients. Ether is ruled out on account of its action on the kidneys. Nitrous oxid and oxygen usually increases the already high blood pressure. The anesthetic of choice is novocain or procain by the epidural route, in a three-per-cent solution. The weaker the solution, the greater the quantity required. Fifty c.c., the amount required if used in one-per-cent strength, traverses the epidural space as far as the neck; thirty-five c.c. (two-per-cent strength) reaches as far as the thorax; while twenty c.c. of the three-per-cent solution reaches as far as the lumbar spine, and anesthetizes only the area involved in the operation. Twenty minutes is required for the drug to take effect. It does not increase the blood pressure, and usually decreases it. Better muscular relaxation is secured, with less bleeding and oozing. In ninety-three per cent of the cases, the drug is successful. Adrenalin should be ready for immediate use in case of a sudden drop in blood pressure. The dose is three or four minims when given intramuscularly or, if the need is more urgent, one minim intravenously.

Perineal prostatectomy is less bloody than suprapubic. The sphincter of the bladder is not damaged, the entire gland can be brought into view and removed, and perfect drainage is obtained after operation. The old method using a median incision through the commissure, has been superseded by the inverted-V and the bilateral incisions. The radical operation for carcinoma of the prostate has the best results for operation for carcinoma any where in the body because this gland is the most encapsulated organ in the body. The multilayered epithelial lining of the bladder prevents metastasis from occurring here secondary to carcinoma of the prostate. For hypertrophy of the proximal end of the prostatic urethra, the punch operation followed by cautery often suffices. It is also used in congenital valves or membranes.

The intravenous use of one-per-cent mercurochrome solution has been successful in combating septicemia of staphylococcic, streptococcic (except the viridans type), pneumococcic, and colic origin. The dosage is regulated according to the weight of the patient: five milligrams per kilogram of body weight, or twenty-three c.c. per hundred pounds, usually starting in ten or fifteen c.c. portions.

Ninety-four guests were present at the annual banquet of the Society held at Whitner's Tea Room on January 10th, with Dr. L. J. Livingood of Womelsdorf as toastmaster. The representatives of the passing and oncoming administrations pointed out their aims, ideals, and accomplishments. Dr. J. E. Livingood's statistics in "Facts, Figures, and Fancies" were most illuminating as to the character of the financial transactions displayed during the last eight administrations.

Dr. A. C. Morgan, president of the State Society, speaking on "State Medicine," described the work of the Board of Trustees of the State Society, more particularly in the line of aiding its members in attaining and maintaining a higher standard of work, in their defense in legal cases, and in their relationship with other groups of the healing art. Rev. L. Griswold Williams, in "Æsculapius, Hocus-Pocus, and God," presented a word picture of religion and medicine from its startings with the magicians thousands of years ago, and pointed out how these respective fields could collaborate to the best advantage of humanity.

PEARL E. HACKMAN, M.D., *Reporter.*

BLAIR—DECEMBER

A regular monthly meeting was held at the Altoona Hospital on December 27th. Judge Thomas C. Hare was the guest speaker and made a splendid talk on the medicolegal side of medical practice. His paper consisted of answers to questions submitted by members of the Society, some of which follow:

Q. What is malpractice?

A. Negligent practice with absence of care and skill. The law requires such reasonable skill and diligence as is ordinarily exercised by other physicians and surgeons practicing in the same locality.

Q. Is a physician required to give expert testimony in a civil or criminal case? What compensation can he demand?

A. A physician is required to give any necessary testimony in a criminal case. In a civil case he is required to give testimony, but not expert testimony unless properly compensated.

Q. Is the physician required to respond to every or any call?

A. Legally no, but ethics demand that he render such aid as circumstances require.

Q. Is a physician justified in declining to attend a patient further?

A. Yes, if the patient does not comply with instructions; otherwise he cannot.*

Q. What is expert testimony?

A. When a man is called upon for his opinion backed by years of study and observation, this is termed expert testimony. If it is testimony which the average man could give, it is not expert testimony.

Q. How far can a physician, called as a witness, go in divulging information given him by a patient?

A. A physician may not be required to divulge the confidence of a patient without the patient's consent.

Q. What can be done about the criminal-abortion situation?

A. This question is exceedingly difficult to answer. What is to be done about all forms of crime? It seems that the real solution lies in awakening the public conscience to the necessity of applying the rules of human conduct and the law. The passionate age and flaming youth produce the causes leading to many of the abortions.

R. V. SILKNETTER, M.D., *Reporter.*

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*In connection with this question and the previous one, attention is called to Chapter I, Section 4 of *Principles of Medical Ethics* adopted by the American Medical Association: "A physician is free to choose whom he will serve. He should, however, always respond to any request for his assistance in an emergency or whenever temperate public opinion expects the service. Once having undertaken a case, a physician should not abandon or neglect the patient because the disease is deemed incurable; nor should he withdraw from the case for any reason until a sufficient notice of a desire to be released has been given the patient or his friends to make it possible for them to secure another medical attendant."—*Editor.*

CLEARFIELD—JANUARY

The regular meeting was held in Clearfield on January 11, 1928. The following officers for 1928 were elected: President, J. C. Sullivan, Dubois; first vice-president, W. E. Reiley, Clearfield; secretary, J. M. Quigley, Clearfield; treasurer, W. O. Wilson, Clearfield; editor-reporter, G. D. Fussell, Clearfield; delegate to the State Society, W. O. Wilson, Clearfield.

The scientific program consisted of a symposium on arthritis. Papers were read by Drs. J. E. Ginter, G. A. Ricketts, and S. J. Waterworth.

G. D. Fussell, M.D., *Reporter.*

ELK—JANUARY

At the annual meeting on January 12th the following officers were elected for 1928: President, J. B. Fulmer, Emporium; vice-president, A. C. Luhr, St. Marys; secretary, Samuel G. Logan, Ridgway; treasurer, M. M. Rankin, Ridgway; district censor, J. C. McAllister, Ridgway; censors, Walter M. Black (1928), Henry H. Smith (1929), J. W. Warnick (1930); Committee on Public Policy and Legislation, J. C. McAllister, Walter M. Black, Samuel G. Logan; Committee on Public Relations, J. E. Madara, J. W. Warnick, S. G. Logan; Committee on Mental Health, James E. Rutherford, Stanley Barratt, Perry O. Hall; Finance or Credit Rating Committee, S. G. Logan, S. T. McCabe, J. E. Madara; delegate to State Society, S. G. Logan; alternates, J. E. Madara, M. M. Rankin.

The secretary reported an average attendance for the year of 47½ per cent. It was decided to have Cole's moving pictures on the "Pathology and Classification of Gastric Ulcer" at the February meeting in the Strand Theater in Ridgway, after which the secretary will entertain at dinner. A finance or credit-rating committee has been appointed in an attempt to eliminate the chronic dead-beat.

S. G. Logan, M.D., *Reporter.*

ERIE—JANUARY

At the January meeting the following officers were elected: President, B. S. Putts; first vice-president, O. N. Chaffee; second vice-president, Harrison Dunn; secretary, J. A. Stackhouse; assistant secretary and reporter, Norbert D. Gannon; treasurer, F. B. Krimmel; librarian, Fred E. Ross; censors, G. A. Reed, DeWitt Jackson, and H. A. Lyons.

Dr. Ford Eastman presented a paper on "Inguinal Hernia," in which he discussed the many academic phases of the subject. He prefers ethylene anesthesia, condemning the use of local anesthesia for such repair. Discussion followed by Drs. Dunn, Krimmel, Chaffee, and Reed. They brought out the following points: relief of postoperative backache by flexing the legs, placing the patient in Fowler's position; early operation and avoidance of a truss; and proper transplant of the cord.

The report of Secretary Stackhouse showed a marked interest in the affairs of the Society, and cited the success of the annual golf tournament and banquet, the issuance of a new bulletin, the *Stethoscope*, the large attendance at the meetings, and the splendid class of speakers at the sessions.

Dr. K. Law Wright made a report on the local tuberculosis society, showing the prevalence of tuberculosis in this county and the need of a serviceable and properly located hospital. To further this project a committee consisting of Drs. Reed, Chaffee, and Putts was appointed to confer with the Erie County commissioners at an early date. The local society is opposed to placing a tuberculosis hospital adjacent to or as part of the Erie County Almshouse, as was planned by the commissioners. Dr. Elmer Weible presented a resolution calling for the early erection of a tuberculosis hospital near the city for pay and indigent patients.

Following remarks by Drs. Parsons, Wright, Reed, Spaulding, and Gannon on the abuse of the local well-baby clinics, President Putts was authorized to appoint a committee to take up this matter with the city and Visiting Nurse Association.

The annual banquet, in the Erie Club early in December, was the best-attended ever held by the Society. The president-elect of the State Society, Dr. Thomas G. Simonton, of Pittsburgh, was present, and spoke on medical legislation in this State and its relation to physicians; on the 1929 convention, which may be held in Erie if the County Society goes after it strong enough; and on "Referred Pain in Pneumonia."

Norbert D. Gannon, M.D., *Reporter.*

FAYETTE—DECEMBER-JANUARY

The annual clinic and banquet of the Society were held on December 15, 1927, at the Uniontown Hospital. Medical and surgical cases were presented by Drs. King and Hughson of the staff of the Johns Hopkins Hospital, Baltimore, Md.

A regular monthly meeting was held in the Uniontown Hospital on January 5, 1928. At this meeting the election of officers took place, Dr. G. H. Hess being chosen president. A paper was read by Dr. M. H. Cloud on "Scarlet Fever, with Special Reference to Recent Innovations in Prevention and Treatment."

C. F. Smith, M.D., *Reporter.*

INDIANA—JANUARY

The annual meeting was held January 12th at the Indiana Country Club. The following officers were elected for 1928: President, Clark M. Smith, Plumville; first vice-president, A. T. Rutledge, Blairsville; second vice-president, A. B. Danisawich, Homer City; secretary, A. H. Stewart, Indiana; treasurer, C. E. Rink, Indiana; censor, C. Paul Reed, Indiana; reporter, Charles H. Bee, Indiana.

Dr. Thomas G. Simonton president-elect of the State Society was the guest speaker, taking as his subject, "The Value of an Active Medical Society." Dr. E. F. Shaulis, a member of the Freeman Commission, gave some interesting data with reference to the workings of this Commission. Dr. Simonton also spoke on this subject, and stressed the necessity for keen, energetic action on the part of organized medicine, picturing the propaganda and methods of the cults.

After remarks by the retiring president, Dr. James M. Torrance, a banquet was served, followed by a social hour.

Chas. H. Bee, M.D., *Reporter.*

LUZERNE—DECEMBER

A regular meeting was held in the Medical Building on December 21st, with President G. R. Drake in the chair. Dr. A. V. Sloan of Wilkes-Barre and Dr. R. H. Stroh of Wyoming were elected to membership. It

was announced that during the past year, $3,937.37 had been added to the endowment fund of the library. The following officers were elected for the ensuing year: President, M. B. Ahlborn; vice-president, H. A. Fischer; recording secretary, E. W. Bixby; financial secretary, J. J. McHugh; treasurer, Boyd Dodson; censor for three years, C. L. Shafer; director for three years, W. J. Doyle; librarian, L. H. Taylor; editor and reporter, L. T. Buckman.

Dr. H. W. Croop, Kingston: Preservation of the Birth Canal.—Pelvic examination about two weeks prior to expected delivery is of great importance. It should include pelvic measurements, abdominal palpation, auscultation, the relation of the presenting part and amount of descent, and vaginal examination. This should be checked up at onset of labor after thorough preparation of the patient. The prevention of lacerations depends largely upon the rapidity of delivery, provided there is no disproportion between the presenting part and the pelvis. Consequently, delivery must not be hastened, but allowed to progress slowly, giving sufficient time for the soft parts to dilate and the presenting parts to mold properly.

In every delivery the perineum should be carefully supported by the palm of one hand while the other controls the rapidity of delivery. The patient may lie on either the back or the side. Lying on the back is the method usually preferred. In poorly lighted homes with beds that sag badly in the middle, the lateral posture is to be preferred. This also gives less laceration in the hands of the inexperienced.

Lacerations are often caused by too much hurry to deliver the shoulders. Preservation of the levator ani is most important, and probably no obstetrical procedure has so much value as the episiotomy. Absolute indications for episiotomy are: a resistant perineum; some pathologic conditions of the vulva, as scars; abnormal size of the child, or abnormal mechanism causing mechanical disproportion; necessity of rapid extraction; and to divert an impending laceration away from the anus. The usual types of episiotomy are the lateral or bilateral, the median, and the mediolateral. The median is to be avoided if a forceps or breech extraction is done. The mediolateral is probably the best method to be used in most cases, but its repair requires care and practice to secure good approximation anatomically.

The positive indications for forceps are the same as for extraction in general: (1) slight disproportion, (2) arrest of rotation of the head, (3) complications where rapid delivery is essential, (4) signs of danger to the child or mother or both, (5) delivery of the aftercoming head in breech extraction. Contraindications are (1) marked disproportion, (2) abnormal presentation, especially face and brow, and (3) dead fetus. Version is preferable to a forceps delivery in persistent occiput posterior.

The absolute indication for cesarean section is that the child must be removed abdominally whether dead or alive, and regardless of the condition of the patient. The greatest relative indication is probably contracted pelvis.

The time of repair of lacerations is a personal choice. As a rule, if the patient's condition permits, I believe it is best to do an immediate repair. In known infected cases, it is best to leave the perineal wounds wide open for the purpose of drainage, but if a sphincter is torn, a few sutures should be put in to unite it.

Dr. W. A. Weaver, Wilkes-Barre: A Consideration of Epigastric Pain: As a rule, epigastric pain is an expression of some gastrohepatic disorder. Pain due to some disorder of the liver is generally latent, usually being elicited only by palpation. Such disorders may be the passive congestion of cardiac insufficiency, dyspeptic congestion due to excessive intake of alcoholic beverages and meats, or abscess and congestion due to infections such as syphilis and malaria.

Pain due to gastric disorder may be of the well-known hyperchlorhydria syndrome, usually a combination of pain on gastric evacuation and of pronounced hyperacidity, or gastroduodenal ulcer. This may occur with normal gastric acidity, when the pain is in all probability due to hypertonicity, pylorospasm, and exaggerated peristaltic movements. In these cases the pain is usually delayed. The pain manifestations attending gastric neuroses with gastroptosis, dilatations of the stomach, and frequently hyperacidity in short hyposthenic dyspepsia, are usually dull pains coming on immediately after the ingestion of food, with sensations of weight and discomfort superimposed upon an asthenic and neuropathic make-up.

In cancer of the stomach, pain may be almost absent and elicited only by palpation, or it may be dull with a sensation of weight in the epigastrium and distention. Cholelithiasis is frequently attended by the syndrome of hyperchlorhydria, and differentiation from duodenal ulcer and hypersthenic dyspepsia depends upon careful examination for gall-bladder signs, definite attacks of hepatic colic, and a history of former infections. The epigastralgia of pericarditis is a dull, latent pain readily awakened by pressure.

The pain of acute hemorrhagic pancreatitis is violent and excruciating, with vomiting, distention, and shock. Unlike that of perforated gastric ulcer, it is not accompanied by boardlike rigidity, and early in the attack the rigidity is comparatively slight. The pain of chronic pancreatitis may be in the epigastrium, but may be of greatest intensity over the region of the ducts from the pancreas and gall bladder. Sudden, severe epigastric pain is at times met with in tabes. The duration of the pain may be from a few hours to several days, and it often ceases as suddenly as it began. It is usually associated with other signs of tabes.

Dr. Meyers: Sometimes, because of the pressure brought by members of the family to "do something" to relieve the patient, we are persuaded against our better judgment to resort to the forceps. It is safest to do a double episiotomy, and just at the margin of the labium majorum. Anything higher may go into the urethra, and anything lower may go into the pelvic floor.

Dr. Ahlborn: The question of the immediate repair of the perineum brings up a humorous incident of fifteen years ago. One of our members was being sued for malpractice. He was accused of allowing the woman to lie there without attention after the birth of the child. Several of the older men were mixed up with it, including some of us lesser ones. A very fresh young lawyer, now a prominent member of the bar, had cross-examined a number of witnesses, and finally got Dr. Matlack on the stand. "Now, Doctor," he said, "Just tell the jury if it was ever your custom to repair a woman immediately after delivery." "Yes, sir!" With that the young lawyer was delighted, and said: "Now tell the jury why you did it." To which Dr. Matlack replied: "Because I did not know any better."

Dr. Kocyan: In repair of the perineum surgical anesthesia is needed. To repair the perineum under obstetrical anesthesia is almost impossible.

Dr. Croop: An episiotomy which is done mediolaterally has this disadvantage: when you repair it, if you are not careful, you will not have good apposition. Some prefer the median episiotomy which gives an opportunity to make a better repair. It is not so good in a forceps delivery. I believe every episiotomy, after the use of catgut, should have silkworm-gut sutures to hold it up.

I do believe that repairs are not best done immediately. Where there is apt to be infection, it is best to leave them till later. Repair should not be attempted without surgical anesthesia and very good light.

I believe the most valuable drug in obstetrics is ergot. The second drug of importance is morphin. We are too often afraid to use it. It is not true that it should not be given within three hours of expected delivery. Pituitrin is a valuable remedy in some instances. It is an excellent thing in atony of the gastrointestinal tract. From the standpoint of obstetrics, the patient would be better off if pituitrin were thrown out of the obstetrical bag. It has only one use, and that is in atony with no obstruction and good dilatation.

Lewis T. Buckman, M.D.,
Reporter.

PHILADELPHIA

December 21, 1927

The president, Dr. F. S. Baldi, in the chair.

Chemical, Experimental, and Clinical Investigation of Synthalin and Neosynthalin: Written by Dr. E. Frank, of Breslau, Germany; read by Dr. Carl Schumann.—Experiments were started with a reinvestigation of the statement of Watanabe in 1918 that sublethal doses of guanidin are able to cause considerable decrease of blood sugar in the rabbit. This statement we not only confirmed, but essentially extended.....

Dekamethylendiguanidin, with ten CH_2 groups, was introduced as synthalin. While early experiments were made with subcutaneous injections, it was later found that oral administration took nothing away from the efficacy of the drugs. By animal experiment it was found that even the most dangerous phases of disturbed carbohydrate metabolism, even coma, can be successfully influenced by synthalin and similar bodies. Snapper and Oestreicher, studying the influence of synthalin on phloridzin acidosis, have come to very remarkable conclusions. They waited to give synthalin until the dogs were comatose. Even after the first oral dose, much less acetone and oxybutyric acid were excreted than the day before, and in eight to twelve hours after the second dose these same moribund dogs became well and happy, drinking spontaneously and showing lively reactions. The human diabetic, fortunately, is much more sensitive than animals, the most constant sign of overdosage being anorexia or nausea and vomiting. Men vary in their tolerance from 10 mg. to 60 mg. per day. Most patients have only moderate discomfort from synthalin. By combining the administration with decholin, the most sensitive people can be treated. Such preparations are called neosynthalin.

Diet still remains a most important factor, and its regulation must not be neglected any more with synthalin than with insulin.

Dr. Adolph Ringer, New York.—The discovery of synthalin will doubtless stimulate research on diabetes just as did the discovery of insulin.

In January, 1927, I used synthalin for the first time on a little girl who had been treated by insulin for one year. Stopping the insulin resulted in an increase of from 6 to 25 mg. of sugar per day and a rise in the acetone bodies. Given 12.5 mg. of synthalin morning and evening, she became aglucosuric and the ketone bodies markedly decreased. On stopping synthalin there was a return of the glucose and ketonuria. For two and a half months she was given synthalin, skipping every third dose. She held her weight at 74 pounds, remained sugar-free, and the ketone bodies were about 0.18 mg. The nitrogen total with synthalin was less. Then synthalin was stopped and insulin resumed, but the previous insulin dose of ten units was now insufficient, showing that the patient's general condition had not improved. She was kept on synthalin until October, and remained sugar-free. Three other cases have since corroborated these findings, the cases representing all stages of diabetes.

What are the results? Physiologically, the glycosuria is cleared; the blood sugar is not strikingly affected; on the average, there is a lessened nitrogen output; and the ketonuria drops. Whether or not there is actual glucose combustion can be proved only by the respiratory quotient. Clinically, a majority of mild diabetics can be cared for by diet alone, and ketonuric cases must have insulin. The disadvantages of insulin are the possibility of hypoglycemia and the discomfort of hypodermic administration. A survey of the action of synthalin would indicate that it is a step in the right direction, for it is in tablet form for oral administration, and though the gastric distress is annoying, immunity can be established. It is not so prompt in action as insulin, nor can it be used indiscriminately. It is of still more scientific than therapeutic interest, foretelling a new era in diabetic chemotherapy.

W. S. Karr, Ph.D.—It is of primary importance to discover whether or not the substance actually aids the organism in the burning of sugar. Studies tend to indicate that synthalin does this in the human body, as determined by observation of the respiratory quotient.

Dr. Orlando H. Petty.—Since, in August, 1927, a manufacturing firm in the United States secured rights to the drug, and pending tests it is not being sold, it is difficult for the profession to secure reliable synthalin.

This report is based on observation of ten cases for sixteen weeks. In a third there were unpleasant by-effects. On a constant diet, the drug was given, producing aglycosuria, then withdrawn, with a return of sugar, then given again, the patient becoming sugar-free, though some patients continued to have hyperglycemia. A series of patients who had been doing well on thirty units of insulin daily did equally well on synthalin. These studies were made in a special diabetic ward with very carefully regulated diet. We have used synthalin in 68 cases, though in 21 it had to be discontinued because of nausea, anorexia, diarrhea, gastric distress, and vomiting (partly due to a neurotic factor in those who had been "sold" on insulin and feared its withdrawal). Of 27 patients given neosynthalin, 8 had by-effects necessitating its withdrawal; hence it would seem that the toxicity of this drug is little less than synthalin. Careful observation revealed no clinical jaundice, no increase in serobilirubin, no evidence of liver damage, no decrease in hemoglobin, no signs of kidney damage, no loss of weight attributable to synthalin, no unusual variations

in blood pressure, no hypoglycemic reactions except in two cases in which insulin and synthalin had been combined. Synthalin was given to six children, in two cases as high as 40 mg. daily, without ill effects. Each patient studied was on a well-balanced, accurately weighed diet, and with the appearance of any ill by-effects, the dose was reduced or the drug temporarily stopped.

Dr. Withrow Morse.—At Toronto, five years ago, insulin was accepted with questioning and reluctance, and the question is still raised—does insulin actually cause an increase in the respiratory quotient? The variance of effects of synthalin on blood sugar still must be explained. May it be a personal, individual difference in the power of the liver to detoxicate these guanidin substances? Guanidin acts on glucose like a strong alkali, polymerizing it to ketose, fructose, later changing this to diphosphoric ester, then glyceric aldehyd, methyl glyoxal, lactic acid, and finally completing the reduction to acetic acid, which is split to carbon dioxid and water.

Dr. Conaway.—Of 21 consecutive cases treated in the metabolic department of the Philadelphia General Hospital, 12 maintained a normal blood sugar when 40 units of insulin which they had been receiving were replaced by 50 mg. of synthalin. Intervals of rest in the administration of the drug were allowed, and there were no hypoglycemic reactions. One blood sugar which was not reduced by synthalin was lowered on insulin, then remained low on resuming synthalin.

Dr. Looney.—A product marketed by Van Norden in Germany, "gluconin," is claimed not to contain guanidin, but to be produced by an enzymic autolysis of pancreas. Purification of this material by Dale and Dudley in England revealed a product similar to synthalin. May certain toxic reactions in which there is increased creatin in the blood, such as the catatonic præcox, be due to guanidin?

Dr. Duncan.—It is advisable to use decholin with synthalin, though in severe diabetes synthalin rarely replaces the total dosage of insulin. Diet must be strict.

Dr. Rubenstone.—Diet will usually regulate glycosuria in a mild case, but in the 180 mg. cases (blood sugar), put on 10 mg. of synthalin three times a day before meals, there will be a feeling of well-being, even though the hyperglycemia is not reduced. The high cost of the drug is to be regretted.

Dr. Jonason.—Is synthalin nephrotoxic?

Dr. Caper.—In the Pirquet clinic results of experimentation with synthalin in children have been unfavorable.

Dr. Ringer, in closing.—It is not advisable to use synthalin in cases of severe diabetes in children or in patients with a tendency to ketonuria. The synthalin that can be bought now is of a "bootleg" variety and is untrustworthy. At present only research work is justified. So far, the drug seems to be stable. Clinically, it has not proved nephrotoxic. In animals, many drugs may cause a nephritic change, though they are harmless in the human.

MARY A. HIPPLE, M.D.,
Reporter.

WASHINGTON—NOVEMBER-DECEMBER

On November 9, 1927, the first annual clinic to be sponsored by this organization was held. In the afternoon a clinic was conducted at the Masonic Temple by Drs. E. J. G. Beardsley and E. J. Klopp, both of Philadelphia. The cases presented were nearly all from the wards of the Washington Hospital. Those which were largely medical in character were discussed at length by Dr. Beardsley and those which were surgical by Dr. Klopp. There was a large attendance, and numerous visitors were present from Allegheny, Westmoreland, and Fayette Counties.

In the evening a banquet was held at the George Washington Hotel, at which President J. F. Donehoo officiated as toastmaster. The speakers, in addition to Drs. Beardsley and Klopp, were: the Hon. Henry W. Temple, Representative in Congress from Washington and Greene Counties; Dr. Harry J. Bell, State Senator from Fayette County; and the Hon. J. Boyd Crumrine of the Orphans Court of Washington County.

Present plans call for a similar clinic in the fall of each year, as it was felt that this first venture was a real success.

The December meeting was held on the 14th, at the Washington Hospital. A program on the subject of diabetes had been prepared by Dr. J. J. Corwin of Washington and Dr. J. W. Hunter of Charleroi. Due to a fire which largely destroyed his house, Dr. Hunter was unable to be present. Dr. Corwin, therefore, substituted a biography of Lister, introducing also some of Pasteur's work, and Dr. J. B. McMurray read a paper on the progress of surgery since the time of Lord Lister.

It was decided by the Society that each candidate for the Legislature should receive a letter from the secretary asking him to state his opinion on the forthcoming chiropractic bill. It was the consensus of opinion that this should be done by every county society in the State.

C. A. CRUMRINE, M.D., *Reporter.*

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

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HEALTH PROGRAMS FOR THE STATE AND COUNTY AUXILIARY*

MRS. GEORGE H. HOXIE†
KANSAS CITY, MO.

First, I want to thank you for the very helpful, constructive thing which you have done at this session to further the national work. I was present at your House of Delegates meeting yesterday morning when $500 was voted to cover the expense of the next *Bulletin* of the National Auxiliary. As chairman of health education I have been handicapped by the impossibility of contact with the state and county workers because of lack of money. The *Bulletin* will make communication between national workers and state and county workers possible. If your gift stimulates other state auxiliaries to

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†Vice-President and Chairman of Health Education of the Woman's Auxiliary of the American Medical Association.

similar contributions, regular contacts can be made and team work will become possible. The national executive board will be greatly heartened in their work by your action.

In discussing state and county programs for health education and health work, I shall not take up definite specific details of work. There is no need of talking *Hygeia.* As one of your delegates said yesterday, "the sale of *Hygeia* is not a debatable question; it is a job assigned to us by the American Medical Association. It matters not whether or not we like *Hygeia.* We are an Auxiliary of the American Medical Association, and we have been assigned, as our first task, to help to increase the subscriptions to *Hygeia.*" It is not necessary for a Missouri woman to stress this point with Pennsylvania women, because Pennsylvania, Texas, and Missouri lead the Auxiliaries in this work.

Nor shall I take time to stress the use of moving pictures for health teaching, or to urge teaching the value of immunization and preaching the periodic medical examination and the like. These things, too, the American Medical Association has advised us to do, and of course we shall do them.

The work of the Auxiliary must go much deeper than that if we are to fulfill our special function. These and similar health jobs other women's organizations are doing. If we do no more we shall be simply swelling the number of women's clubs that do a little "dab" of health work here and another "dab" there, with great satisfaction to themselves but with little that is permanent or constructive in the way of results. I have been working fifteen years with lay women's organizations which do or try to do health work on their own initiative and under lay direction, and I have come to the conclusion that the average women's club gets but meager and unsatisfactory results from its efforts—results in no sense in proportion to the time, strength, money, and enthusiasm that are put into its work.

There are two causes for this. Most lay workers have no knowledge of the enormous field of health work; they have no notion of what constitutes a complete, well-rounded health program for their community. They often become so immersed in their own specific work that, having no sense of perspective, they have no sympathy with other lines of work as important, perhaps more fundamental, than their own. For the most part they concentrate on child-welfare work, because of its emotional appeal. But where fifty women can be induced to run well-baby stations (where the real work is done without pay by the doctors, and the women get the thrill) there may be difficulty in finding one who can be interested in sanitary waste disposal, decent housing conditions, and safe milk.

To illustrate what I mean: I have seen a well-children's clinic conducted within a block of a contaminated spring with a history of several typhoid cases, which the children passed and drank from on their way between the clinic and their homes, which were in dilapidated, ramshackle buildings having no connection for city water, no connections with city sewers, and where the surface privies were open to wind and flies. And yet it was impossible to interest the women running the clinic in improving sanitation in the district. They were seemingly blind to the fact that upon fundamental changes in living conditions in the neighborhood depended the success of their own work.

The second cause I believe to be that women, in their health tasks, undertake work for which they have no training. Work of health promotion and disease prevention is technical, scientific work, and when it is done without the direction of trained people it is amateurish work and can have but amateurish results.

Again an illustration can be taken from my own experience: In 1912 I was one of a small group of women who undertook to improve our city milk supply. We had no money except what we ourselves contributed, so could command no work except what we did ourselves. We read and studied to learn what constituted clean, safe milk and how it could be produced. We asked a trained dairy inspector to teach us how to inspect dairies. We made a complete survey of our dairy industry, and induced a public-spirited doctor to contribute free laboratory service for us. By educating a group of dairymen to improve their methods, and by informing the public through a "white list" which milk was the cleanest, we brought about a marked change in many of the dairies. We did an enormous amount of work during two summer seasons, being out actually inspecting dairies three, four, and five afternoons a week. And then, in 1919, we changed our tactics. We contributed and begged enough money to open a milk laboratory, hire a trained milk bacteriologist, an office worker, a trained dairy instructor, and an assistant, and in one year, with trained workers, we accomplished more than we had in the whole preceding seven years.

If we accept these two things as causes of much of the inefficiency of the health work of the ordinary club, our course is clear. If we are

to live up to the great opportunity we have, we must, as our first work, inform ourselves about the fundamentals that constitute a complete well-rounded health program with its two great fields of public and personal hygiene. Four steps we must be willing to take:

First, we must get a picture of the great field of public-health work, including the control of such problems as waste disposal, pure water, safe milk, flies, dust, housing (problems which, under urban conditions of life, the individual cannot solve, for the solution of which he must look to the technically trained public-health expert; problems which, under rural conditions, must be solved largely by the individual home owner under the guidance of a trained official), and including also the control of infections which are transmitted from one person to another—a problem whose solution is found in the work of the bacteriologist.

Second, we must get a vision of that other great field of health work, personal hygiene, which involves the training of people to better habits of life, teaching prenatal care of children, proper food, rest, recreation, and the like, for which people need the guidance of the scientific physician—all that broad field in which the safety and well-being of the individual depends upon the periodic contact with the skilled physician and such confidence in his modern scientific training as to create a willingness to follow his advice about daily living, as well as about treatment when disease is already present.

Third, having got an idea of what these two great fields of health work include, we should find out what official machinery experience has shown to be best adapted to developing in cities, towns, and rural districts good sanitation, prevention of communicable disease, and better personal hygiene.

And fourth, we should study the official health machinery which does exist and which is or is not functioning successfully in our own state, our own county, our own township, our own city.

In other words, the first task of the state auxiliary board is to study its state health conditions and the state health department and its work, and to induce each county auxiliary to undertake similar work, ending with such a study also of its own county.

Two questions, without doubt, are in your minds: How can a state auxiliary induce its county auxiliaries to undertake such self-education? And where will this lead if it is done? I can answer these questions only out of my own experience.

The Missouri State Auxiliary was organized in June, 1924, and I was its first president. I was instructed at the organization meeting of the board of directors to outline a tentative program of health education and be ready to present it for discussion and action at a second board meeting in October. The situation was not without its humor. I had for many years been doing volunteer health work in my own city, but my work had never drawn me or my attention outside into the state. (My milk activities had led me largely into Kansas.) I knew literally nothing about state health conditions, and nothing about the State Health Department. I had no idea of the amount of money the Department had to work with, the divisions of its organization, nor the name, even, of the state health commissioner. And I was faced with the task of recommending to Missouri doctors' wives the kind of health work and health education they ought to undertake! (I fancy many doctors' wives on other state auxiliary boards have taken their offices under the same handicap.)

But I had three months' time. I appointed as chairman of education a member of the Auxiliary from my own city and we went to work. We studied first of all the vital statistics of the state, comparing the mortality and morbidity rates with those of other states. We soon found ourselves asking questions we could not answer. Why, for example, did Kansas have a much lower typhoid rate than Missouri? Why did Minnesota have a startlingly lower general death rate and infant death rate than did Missouri? We saw at once that we were in beyond our depth, and we took the records to a sanitary engineer with training for health work who was associated with one of the volunteer agencies in our city. He was able, through his knowledge of state health work in several states, to point out what might be the explanation for our high rates as compared with those of other states.

We found we were not in the Federal Birth Registration Area. We took that problem to the chairman of the committee on education and publicity of the State Medical Association, and he was able to point to certain state conditions which might be responsible for the state's slovenly birth statistics. Further, he put us in the way of much information about the State Health Department, its finances, its organization, its work.

We went on with our study of statistics. We found a great variation in the statistics of the different cities and counties of the state. Our own city death rate and infant death rate were

high. But we found that a beautiful little city of 12,000 people located only ten miles away had a higher death rate than Kansas City did. We found a rural county directly adjoining us with a higher death rate than Kansas City had. Again the education and publicity chairman of the State Medical Association was able to explain why, and referred us to United States Public Health Service studies made in former years in such counties showing the bad sanitary conditions and complete lack of preventive health work.

Then we made the sensational discovery of a county which in three years had cut its infant death rate from about 150 to 60. We wrote to the county for an explanation, and were told it was the result of work by their county health unit. We never had heard of a county health unit. We wrote again asking how we could find out about county health units, and were told to write to the State Health Department. Then came our first contact with that department. A letter of inquiry brought a state worker to Kansas City to talk with us.

From him we learned about the plans and work of the State Health Department, how it was trying to decentralize its work and organize full-time health departments in counties able to support them; how it had succeeded in only nine counties because of the lack of interest in health work in most counties of the state, and an almost universal lack of understanding of its need in the rural parts of the state.

By the time his conferences with us came to an end, our auxiliary program had shaped itself. What more logical or fundamental work could a county auxiliary do than to study state conditions, as we had done; study their county statistics as compared with the state averages and the statistics of other counties; get the theory of the county health unit, its organization, its work, its cost; make a survey of the official and volunteer work being done in their county; and then call upon the State Health Department for help in planning and carrying out educational work which would lead up to a widespread demand from the citizens for a full-time county health department? With the State Health Department eager for coöperation from the women of the state, why think up things to do on our own initiative? Why not confine ourselves to work under the direction of that department? And this became our state program.

This program once decided upon, the work of the state chairman of education began. It became her task to induce county auxiliaries to arrange study programs for their meetings. Her success was due to two things: her willingness to work, and her recognition of the fact that many rural doctors' wives are unable to prepare papers because of lack of reference libraries. She, therefore, wrote some papers, collected others, listed articles in the *Journal of the American Medical Association* and in *Hygeia,* and offered to supply educational material for county auxiliary meetings. (It may be of interest that a paper written by a Kansas City auxiliary woman on "Vital Statistics of Missouri" created as much interest and appreciation as any material sent out.) When an auxiliary asked for material, the State Health Department was notified, and that department also sent the auxiliary officers educational matter, including county statistics. I believe that in most of our organized states, such county auxiliary self-education work will be done only if the state officers are ready to supply the material. I go thus into detail about my own experience only to give courage to other state workers. This is fundamental work, and *it is work.* But any state board can do it.

This type of work led inevitably to contact between the county auxiliary and the State Health Department. Further, the following year an auxiliary member working as health committee chairman in the State Federation of Women's Clubs carried this program over into that organization, and a year later another auxiliary member carried a part of it into the State Parent-Teacher Association. As a result, in addition to the general health education being carried on in many counties, these three organizations—the Auxiliary, the Federation of Clubs, and the Parent-Teacher Association—have been working on two tasks assigned them by the State Health Department; first a month's state-wide intensive educational campaign for birth registration, which was done by committees composed of members of the three organizations in each county; and second, a "Six-Point Child" campaign by counties, started in the fall of 1926, and to be continued indefinitely.

Both of these jobs are bringing these women more and more to a realization that every community, rural or urban, is entitled to a scientific, trained, full-time health department, or, where the population is too small for that, at least to public-health nurses; and second, that their own work would give far greater results if they could confine their activities to coöperation with such trained workers. Where there are no local official health workers, they are learning to turn to the State Health Department for direction of their efforts. If in the same way the Auxiliary

and, through their influence, other women's clubs will work under the direction of the organized medical profession for improved personal hygiene and disease prevention, they will avoid mistakes in this field.

This is where health education among the women's clubs is leading in Missouri. In other states, where the state health department programs are different, and where the governmental divisions are different, the resulting health tasks will, of course, be different. But one thing, I venture to say, will be the same in all states: an increased efficiency in the women's clubs and better and greater results from their health activities.

HYGEIA PRIZE OFFERED

Mrs. John O. McReynolds, president of the National Auxiliary, has offered a prize of fifty dollars to the State Auxiliary securing the largest number of subscriptions to *Hygeia;* also a prize of fifty dollars to the county auxiliary securing the largest number of subscriptions to *Hygeia* in proportion to membership.

COUNTY AUXILIARY REPORTS

ALLEGHENY

The third birthday of the Allegheny County Auxiliary was celebrated on January 24, 1928, in the Blue Room of the William Penn Hotel, Pittsburgh. Miss Boice, superintendent of the kindergarten department of the Pittsburgh public schools, an authority on the young, spoke on "The Pre-school Child." Her address was followed by an extensive musical program.

DAUPHIN

At a recent meeting of the Dauphin County Auxiliary in Harrisburg the following officers were elected: President, Mrs. C. R. Phillips; vice-president, Mrs. George W. Bauder; recording secretary, Mrs. John A. Sherger; treasurer, Mrs. D. E. Hottenstein; chairman of constitution and by-laws, Mrs. C. S. Rebuck; chairman of membership, Mrs. George W. Bauder; chairman of publicity, Mrs. George L. Laverty; chairman of *Hygeia*, Mrs. E. A. Nicodemus.

The Auxiliary is planning a tea to be given early in March in the Academy of Medicine. The chairman is Miss Mary R. Reckord. Mrs. William E. Parke, of Philadelphia, will be the speaker and guest of honor.

FAYETTE

The Auxiliary of the Fayette County Medical Society met on Thursday, November 3d, in the Gallatin Room of the White Swan Hotel, Uniontown. Mr. Buell Whitehill gave a very interesting talk on the tuberculosis hospital situation. Instructive and entertaining reports were given by those who attended the State meeting.

The Fayette County Auxiliary is honored by the selection of the State president, Mrs. Charles H. Smith, from its personnel. Mrs. Smith is recognized as one of the most interested and enthusiastic members of the Auxiliary, and she has given much of her time to the organization. The State Auxiliary is to be congratulated, too, in securing an ideal president, one who is not only an interested worker, but who has a most gracious personality. Mrs. Smith has attended many of the State meetings in order to get Fayette County organized properly, and now it is our privilege to show that we appreciate the honor of having the State president. We can do this by attending the meetings, adopting a program of useful work, and putting it over.

M. D. E., *Reporter.*

LACKAWANNA

At the annual meeting of the Lackawanna County Auxiliary held on January 10th in Scranton, the following officers were elected to serve for the year 1928: President, Mrs. M. J. Noone, Scranton; first vice-president, Mrs. I. W. Severson, Scranton; second vice-president, Mrs. F. I. Cavill, Jessup; recording secretary, Mrs. M. I. Pentecost, Scranton; corresponding secretary, Mrs. W. Rowland Davies, Scranton; treasurer, Mrs. E. L. Keisel, Scranton.

Plans are being made for a card party and tea to be held at the Century Club, January 23d, and invitations have been sent to the wives, daughters, mothers, and sisters of members of the County Medical Society.

WESTMORELAND

On Tuesday, December 6th, the Westmoreland County Auxiliary held a luncheon at the Elks Club, Greensburg. Honor guests present were the Pennsylvania State President, Mrs. Charles H. Smith, of Uniontown, and Miss Irwin, Superintendent of Westmoreland Hospital.

Following the luncheon, Dr. Charles Taylor of Irwin gave a brief talk in which he stressed the importance to the medical profession of the auxiliary voting power and political influence. Mrs. Smith explained the Medical Benevolence Fund, and appealed for loyal support in raising the amount of money necessary to put the fund on an endowment basis. Arrangements were made for giving Christmas baskets to several needy families of the county.

Mrs. Ambrose, of Ligonier, presented a proposition from the Westmoreland County Medical Society by which the Auxiliary should have the use of a page of each issue of the *Bulletin of the Westmoreland County Society* for the publication of meeting announcements, reports, and Auxiliary news. This offer was officially accepted, Mrs. Alfred J. Porter was appointed as editor for the Auxiliary page, and in the future a copy of the *Bulletin* will be mailed to each member. No other notice of the meetings will be sent.

The Auxiliary has been organized only a short time, but has accomplished a great many things. It has been instrumental in increasing the acquaintance among doctors' families throughout the county and establishing friendly relations between them. It was helpful in defeating the Chiropractic Bill and the Naturopathic Bill, which were introduced in the State Senate last March. It has placed *Hygeia* before the public, and helped the Benevolence Fund of the State Medical Society.

On Tuesday, January 10th, a business meeting was held at the Nurses' Home, Greensburg, at which time plans were made for a benefit bridge to be given in February.

MRS. ALFRED J. PORTER, *Reporter.*

THE

MEDICAL SOCIETY OF DELAWARE

CLEFT PALATE*

GEORGE M. DORRANCE, M.D.
PHILADELPHIA, PA.

In order to understand what problems are presented in a patient with a cleft palate, one should not only be familiar with the anatomy of the oral cavity, but he must have some knowledge of the physiology of speech. (Figure 1.)

To obtain perfect articulate speech, it is essential for the individual to have perfect control of the passage of air from the oral pharynx to the nose. Certain letters and words require the absolute closure of the oral pharynx from the nose. This fact is easily demonstrable in a normal individual. In addition to this, perfect speech cannot be obtained if any opening exists between the mouth and the nose. Enunciation cannot be perfect in an edentulous mouth or one from which several of the front teeth are absent. To obtain a perfect result, all three factors must be considered and corrected.

It is interesting to note in unoperated cleft-palate cases or cases in which the operative procedure failed how the individual, aided by ever ingenious nature, tries to regulate the passage of air out of the pharynx by substituting the closure of the outlet of the nose for the closure of the nasopharynx. This is accomplished by means of the compressor nares muscle shutting off the anterior nares. I have seen many cases in which this substitute closure by the anterior nares served so well as to deceive the patient and operator into believing the operation performed improved the speaking voice.

Unfortunately, nature has no means, unaided, of closing an opening between the mouth and the nose. If a space between missing teeth is comparatively small, the individual learns to place his tongue in the space when he wishes to make letters such as "S."

In studying my own and a large number of cases of other operators, time and time again I have seen cases in which the operator successfully closed the cleft palate, but speech was no better after the operation. Studying these cases very carefully, I came to the conclusion that the old classification of the deformities of the palate is satisfactory only as to the degree of deformity. It has no value in determining whether an opera-

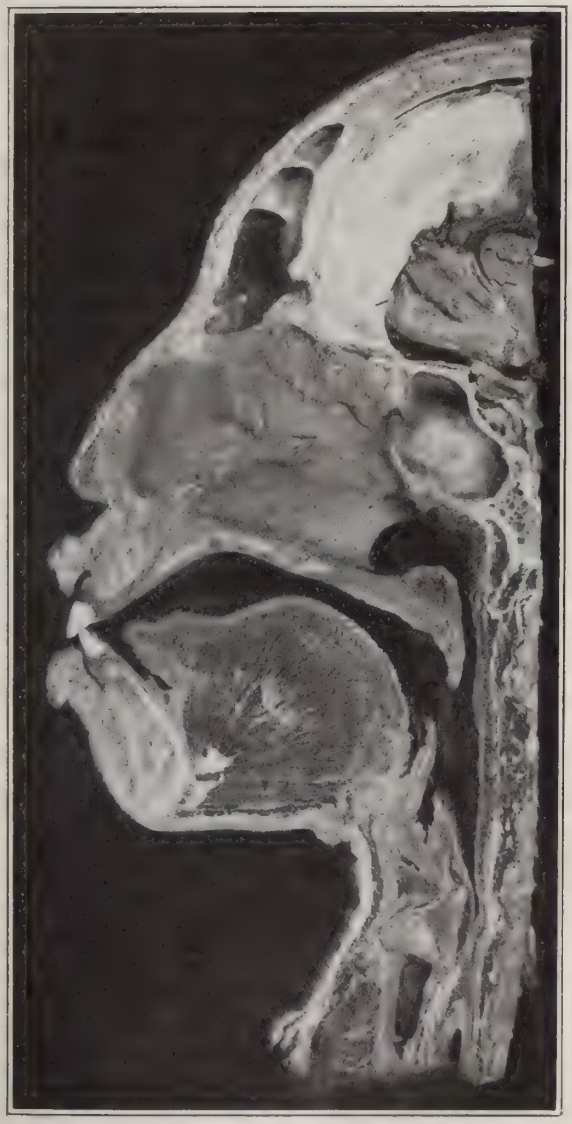


Fig. 1. Note position of soft palate and position of levator palati muscle.

*Read before the Medical Society of Delaware, Farnhurst, Del., October 12, 1927.

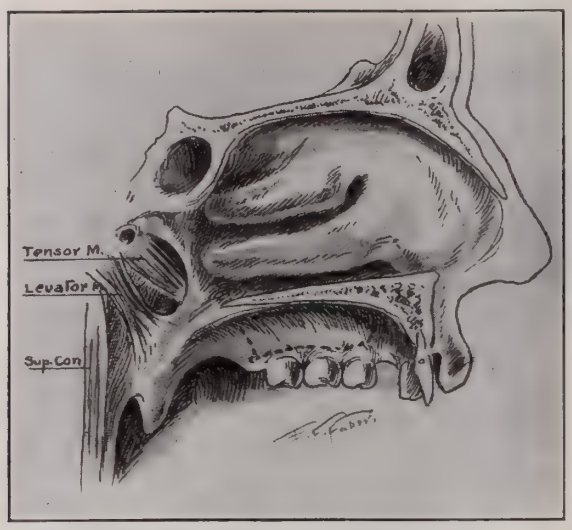


Fig. 2. Normal position of muscles.

tion should or should not be performed. The old classification defines the extent and type of the cleft; i. e., cleft of the soft palate only, cleft of the soft and hard (complete cleft), single or double cleft.

It is a well-known fact that patients who have had a cleft of the soft palate alone, after any operation frequently speak worse than patients who have had a complete cleft. Analyzing these cases to determine why this was, we found that the width of the cleft had very little to do with whether speech was obtained or not. The length of the palate was the deciding factor. If it was a short palate, in other words—one in which the structures were contracted and drawn forward—the operative results were uniformly poor; whereas, if a long palate existed, the final results were good. These facts definitely proved to us that too frequently there is a deficiency in the palate tissue in cleft palates, so that the levator palati muscle is held forward and in this way prevented from drawing the palate upward and backward to close off the pharynx. (Figures 2 and 3.)

This knowledge led us to decide not to operate on any cleft palates until we were sure that we could make a palate sufficiently long to touch the posterior wall of the pharynx. The shortness of the postoperative palates is the main reason for failure to obtain perfect speech after cleft-palate operations.

It has been my privilege to see three cases of congenitally short but apparently normal palates; i. e., these were not cleft, but were too short to reach the posterior pharyngeal wall. These patients spoke exactly the same as the average cleft-palate patient. These three cases were further proof to us that it is this shortening which is the vital factor in defective speech in all palate cases.

The palates do not lengthen after operation. All operators agree that a more flexible palate is obtained when only one operation is performed, as the more scarring there is from operative measures the less flexible the palate becomes.

The question, then, arises as to the best time and method for operating upon cleft-palate cases. What shall be done with the cases that have been successfully operated upon, but the palate will not touch the posterior pharyngeal wall?

No hard and fast rule can be laid down. I divide my cases into two groups. In group one, I place all cases that have a long palate which will touch the pharyngeal wall; in group two, all cases in which the palate is congenitally short and after operation will not be able to touch the pharyngeal wall. Cases in group one may be operated upon about the third year. Cases in group two are not operated upon until about the eighth or tenth year.

In group two, after the child has reached the age of ten, a careful study and measurements are made, and if I feel the palate can be lengthened sufficiently to obtain contact with the posterior pharyngeal wall, I advise the "push-back" operation which I developed for this class of cases. On the other hand, if the palate cannot be brought back in contact with the posterior wall of the pharynx, an obturator is advised.

The reason for waiting until the eighth or tenth year before operating on the operable cases in group two is to wait for the growth of the areolar tissue on the under surface of the palate,

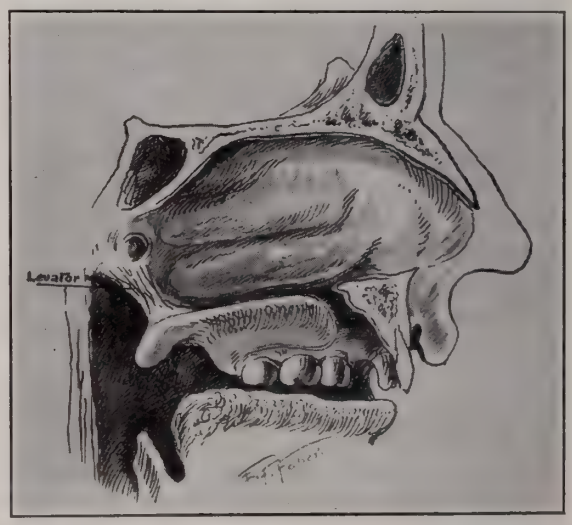


Fig. 3. Note how the insertion of the levator is held forward.

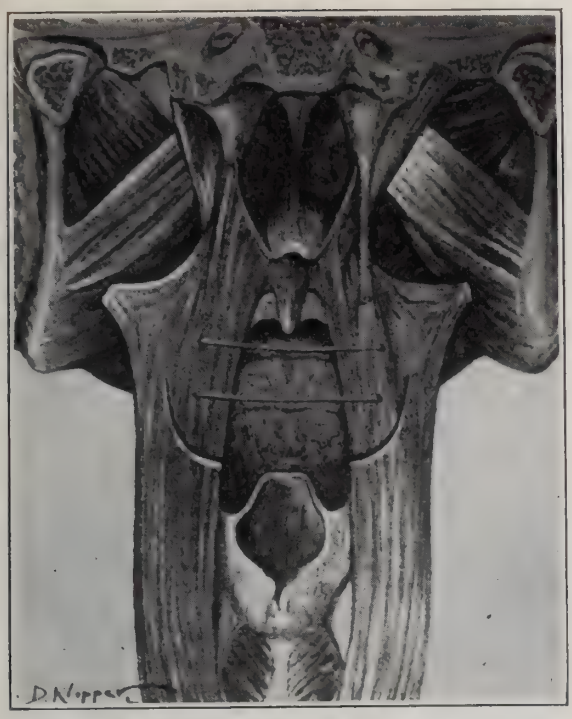


Fig. 4. The Makuen operation.

and to be assured of firm palatine tissue which will permit transplanting. Statistics show that the five per cent operative mortality in infants falls to zero in older children; and further, that the proportion of successful closures of cleft palate increases rapidly after the third year.

From my own personal observations, I am opposed to early operations of any kind on cleft palates, and attribute most of the failures to obtain complete closure to this one factor alone. The old erroneous theory that the child must have his cleft palate closed before starting to talk has been a potent factor in subjecting these children to innumerable operations without especially benefiting their speech.

It cannot be emphasized too often that the ultimate results of any palate operation must be judged by the speech. I am constantly seeing cases in which several operative failures have occurred, the child having been operated upon three or four times in the first three years of his life, and the parents are anxious to have some appliance used to help the child in talking. We find it most difficult to fit this type of case with an obturator.

Let us return now to the cases that we classified in group one. What operation should be done? I do not advocate any special operation in all cases. This is quite impossible, for cases differ in cleft-palate work just as much as in any other congenital arrests, e.g., club foot.

Personally, I prefer the modified Langenbach operation. This operation is familiar, so only the modification will be touched upon. This consists in transposing or dividing the tendon of the tensor palati muscle. The palate must come in contact with the posterior pharyngeal wall or the operation will fail and the case become a member of group two.

In group two, we will consider the clefts where the palate is too short to touch the posterior pharyngeal wall and the cases in which the cleft has been closed but the united palate will not come in contact with the posterior pharyngeal wall and to all intents and purposes are still cleft palates, as these patients are deficient in speech. We feel that the operation termed the "push-back" operation satisfies all the requirements. We are unalterably opposed to the Hudson Makuen operation (figures 4 and 5), for the following reasons: Lengthening the uvula by using parts of posterior pillars of the fauces does not improve speech, as the uvula has nothing to do with the function of speech. We likewise see no merit in the operation of bringing the posterior wall of the pharynx forward with a pad of fat to meet the soft palate. The operation which we advocate aims to push the whole palate backwards, thus putting the levator palati into its normal position so that when it combines with the superior constrictor of the pharynx, closure of the pharynx is possible.

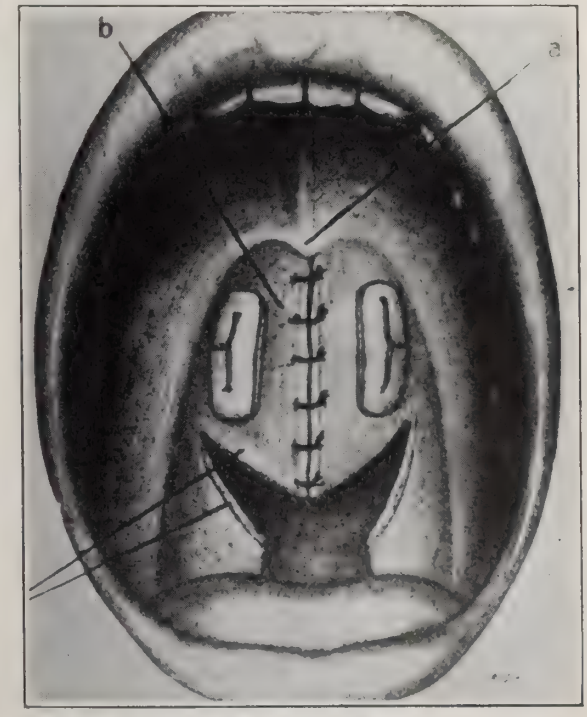


Fig. 5. Makuen operation completed.

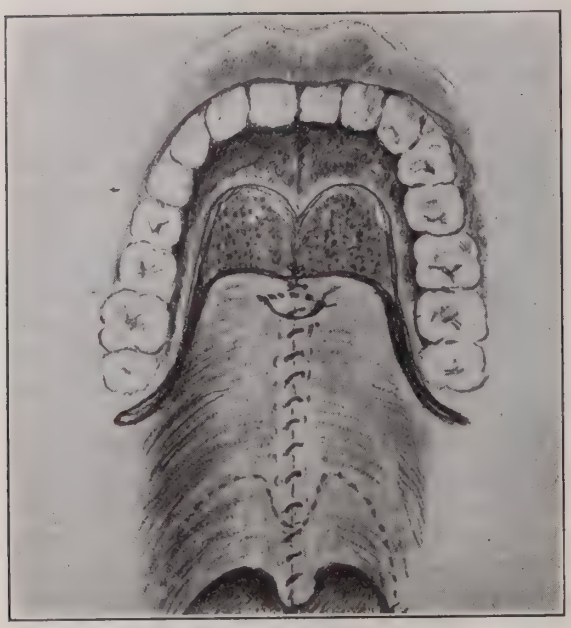


Fig. 6. Push-back operation.

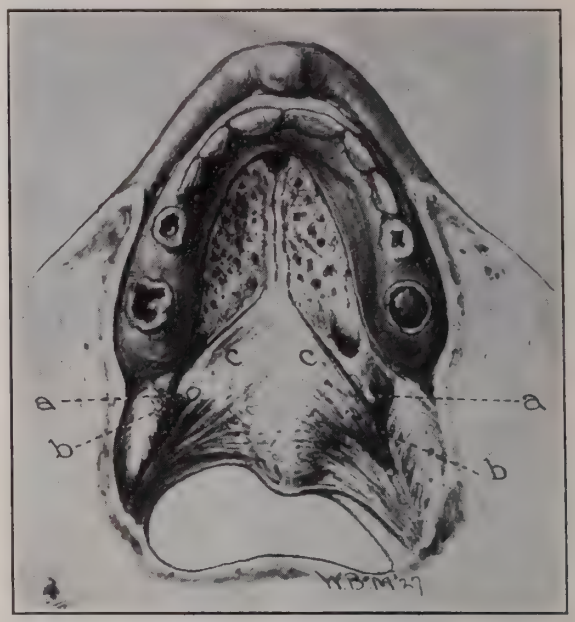


Fig. 8. Congenitally short palate. Notice V-shaped absence of hard palate.

This operation consists in an incision starting back of the last molar tooth and continuing around the palate about one quarter of an inch from the teeth to the opposite molar. The entire palate is elevated, separating it from the bony palate. As we dissect back, we come to the hamular process, which is divided with a chisel, together with a part of the internal pterygoid plate. When this is done on both sides, the palate drops of its own accord, touching the posterior wall of the pharynx. The cut edges of the freed palate are sutured to the mucous membrane with which they come in contact. As shown in figure 6, this leaves an opening in the anterior part of the palate which communicates with the nose. This defect is closed by means of a dental plate.

The first patient upon whom this operation was performed was referred to us by Dr. E. H. Twitmyer of the Psychological Department of the University of Pennsylvania. He tested the patient before and after operation, and found a ninety per cent improvement in speech. (Figures 7, 8, and 9.)

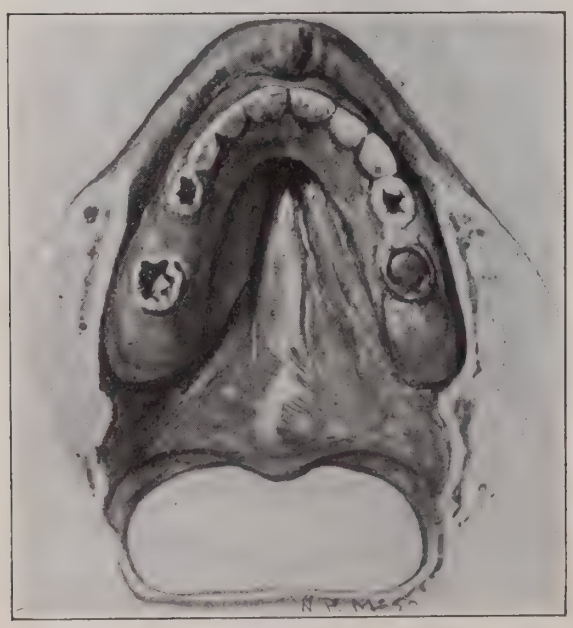


Fig. 7. Congenitally short palate.

Fig. 9. Final result.

We have now performed this operation a sufficient number of times to warrant recommending it in all cases of congenitally short palate where sufficient tissue exists to obtain contact with the posterior pharyngeal wall. For the cases which have been previously operated upon without obtaining a proper speaking voice, it offers the greatest hope. Our most brilliant results have occurred in adults, who are the most exacting critics. (Figures 10, 11, and 12.)

A two-stage operation is advised in some of these cases previously operated upon. At the first sitting we divide and raise the flap, then replace it. Seven days later, the flaps are again raised, the hamular process divided, and the

Fig. 10. Patient previously operated upon. Note failure.

mesial edges prepared and sutured in place. It is necessary to use an appliance attached to the teeth to help support the flaps.

I do not wish to create the impression that we can cure all speech defects in every case, nor should you think that all patients who have had a failure can be cured by this method. It is frequently necessary to advocate the use of an obturator and to advise against any operative interference.

In conclusion, let me reiterate the essential facts, as I see them, in cleft palate cases: (1) No operation is successful which fails to give the patient a good speaking voice. (2) Cases with a long palate will obtain a good result with any standard operation in the hands of a competent

Fig. 11. Drawing of palate, same patient.

operator. (3) Cases with a short palate should not be operated upon until after the tenth year. (4) Unless the operation can bring contact between the soft palate and the posterior pharyngeal wall, no improvement in speech will obtain. (5) If it is impossible to bring the palate back, an obturator will be necessary. (6) Careful orthodontic regulation of the teeth is essential. (7) Speech training with the use of certain German letters is essential.

2025 Walnut Street.

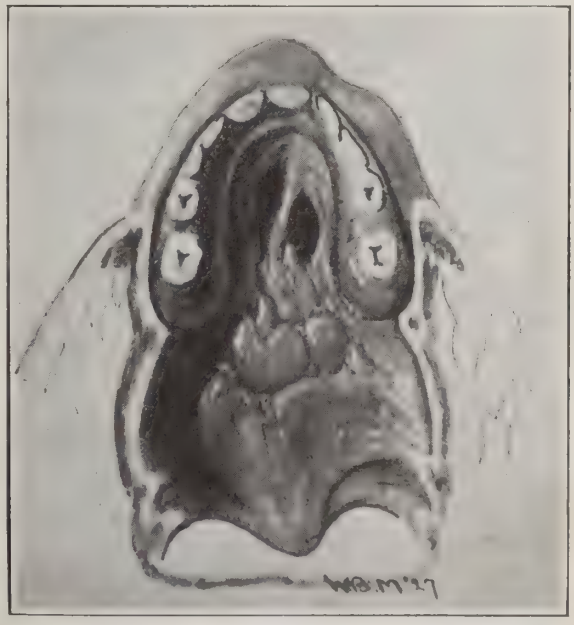


Fig. 12. Completed operation. Note holes in the palate. These are covered with a plate.

Medical News

Deaths

JAMES K. IRWIN, M.D., of Pittsburgh; Jefferson Medical College, 1888; aged 65; November 29.

RICHARD T. POLLARD, M.D., of Garrett; Baltimore Medical College, 1891; aged 79; January 5.

HAROLD J. BYRON, M.D., of Connellsville; Jefferson Medical College, 1920; aged 30; January 6.

MRS. FRANK R. COYNE, mother of Dr. Richard J. Coyne, of Philadelphia; January 21.

JOS. H. RINGER, M.D., of Jeannette; University of Pittsburgh School of Medicine, 1888; aged 74; December 2.

HENRY C. KRIEG, M.D., of Philadelphia; Medico-Chirurgical College of Philadelphia, 1909; aged 47; December 27.

AUGUST SOFFELL, M.D., of Pittsburgh; University of Pittsburgh School of Medicine, 1894; aged 54; December 30.

LEO F. BRADLEY, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1908; aged 46; January 4.

MRS. EMMA BROOKS HARVEY, wife of Dr. Charles H. Harvey, of Philadelphia; aged 53; January 9, of heart disease.

GEORGE H. VAUX, M.D., of Pittsburgh; University of Pittsburgh School of Medicine, 1895; aged 40; December 26.

A. L. SIERER, M.D., of Harrisburg; Hahnemann Medical College and Hospital of Philadelphia, 1888; aged 78; January 3.

FREDERICK C. LEAS, M.D., of Wayne; Hahnemann Medical College and Hospital of Philadelphia, 1904; aged 55; January 11.

BRUCE L. CALHOUN, M.D., of Verona; Cincinnati College of Medicine and Surgery, 1876; aged 83; October 9, of heart disease.

THOMAS V. WILLIAMS, M.D., of New Castle; College of Physicians and Surgeons, Baltimore, Md., 1892; aged 65; December 21.

FRANCIS W. HARPER, M.D., of Irvona; College of Physicians and Surgeons, Baltimore, Md., 1896; aged 62; January 3, of pneumonia.

JOHN C. DIXON, M.D., of Connellsville; University of Pittsburgh School of Medicine, 1908; aged 43; November 27, of heart disease.

J. EDWARD BEALE, M.D., of Lemoyne; Medico-Chirurgical College, 1907; aged 51; January 23, after an illness of nearly a year.

ELMER E. MAITLAND, M.D., of Spartansburg; Kentucky School of Medicine, Louisville, 1892; aged 66; December 13, of sepsis.

SAMUEL M. LINGENFELTER, M.D., of Lancaster; Medico-Chirurgical College, 1898; aged 54; December 17, of heart disease.

JOHN F. NOWELL, M.D., of Greencastle; Hahnemann Medical College, 1875; aged 82; December 25, of cerebral hemorrhage.

JOHN W. HAY, M.D., of Harrisburg; University of Pennsylvania School of Medicine, 1871; also a druggist; aged 80; November 26, of senility.

JAMES H. RALSTON, M.D., of Ellwood City; Jefferson Medical College, 1901; aged 63; November 28, of carcinoma of the sigmoid flexure of the colon.

FRANK W. THOMAS, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1880; aged 70; January 19, after an illness of several months.

EDWIN L. SMOCK, M.D., of Bath; Jefferson Medical College, 1878; formerly on the staffs of the Easton (Pa.) Hospital and St. Luke's Hospital, Bethlehem; aged 69; December 4.,

ROBERT M. TUDOR, M.D., of Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1893; completed 400 oil paintings many of which were exhibited in the Academy of the Fine Arts; aged 92; January 13.

GEORGE R. CARMICHAEL, M.D., of Wilmington, Del.; Hahnemann Medical College and Hospital of Philadelphia, 1894; on the staff of the Homeopathic Hospital for many years; aged 59; December 13, following an operation for appendicitis.

Births

TO DR. AND MRS. GOMER T. WILLIAMS, of Southampton, a daughter, recently.

TO DR. AND MRS. NATHANIEL G. SHAFRITZ, of Philadelphia, a son, Richard Ira, January 16.

TO DR. AND MRS. JOSEPH H. SCHOENFELD, of Philadelphia, a daughter, Doris Janet, November 22.

Engagements

MISS ELIZABETH FLETCHER AND MR. WALTER DENT SMITH, son of Dr. and Mrs. Willard E. Smith, of Wilmington, Del.

MISS HELEN M. STINSON, of Glenside, and MR. ROYLE L. KRAUSS, son of Dr. and Mrs. Frederick Krauss, of Elkins Park.

MISS LILLIAN NOON, daughter of Dr. and Mrs. G. A. Noon, of Listie, and Mr. Ralph H. Cain, of Birmingham, Alabama.

MISS ELIZABETH GRAY, daughter of Dr. and Mrs. Henry W. Gray, of Philadelphia, and Mr. Alfred J. Ostheimer, 3d, son of Dr. and Mrs. Maurice Ostheimer, of Whitford.

Marriages

DR. CHARLES C. NORRIS and Mrs. William J. Farr, both of Philadelphia, January 12.

DR. W. H. KRAEMER and Miss Caroline Robelen, both of Wilmington, Del., January 3.

DR. JOHN T. CARPENTER and Miss Sarah Emlen Conard, both of Philadelphia, December 22.

DR. LEWIS HITZROT, of Philadelphia, and Miss Dorothea Johnson, of New York City, recently.

DR. IRVINE M. FLINN, JR., of Wilmington, Del., and Miss Margaret Dashiell, of Princess Anne, Md., January 3.

DR. RONALD F. FLECK, of Mahanoy City, and Miss Theresa M. Frantz, of Shenandoah, June 25, 1927. The wedding was announced only recently.

DR. W. EDGAR CHRISTIE, of Philadelphia, and Mrs. Mary League Stauffer, of Bryn Mawr, recently. Mrs. Christie sailed for Europe, January 19, with her sisters, and will be joined later by Dr. Christie in England.

MISS VIRGINIA BELL HILLER, daughter of Mrs. Blanche Hiller and the late Dr. Hiram Hiller, of Chester and Philadelphia, to Mr. S. Edward Norris, son of Dr. Richard C. Norris, of Philadelphia. December 6. After the wedding, which was an elopement, the bride sailed for Europe the next day with her mother and sister for a stay of ten months.

Miscellaneous

DR. GEORGE M. HUTCHINSON, of Dagus Mines, is doing postgraduate work in Philadelphia.

Dr. H. E. Twining, of Glenside, spent Christmas in Rome, Italy. He has been in Europe since June.

Dr. Walter M. Black, of St. Marys, is convalescing from a recent illness in a Philadelphia hospital.

Dr. William S. Erdman, of Buckingham, spent the month of December in New York City doing postgraduate work.

The 20th annual session of the Pennsylvania Conference on Social Welfare was held in Scranton, February 8 to 11.

Dr. G. F. Wheeling has returned to his home in Windber after spending fourteen months in Europe doing postgraduate work.

The American College of Surgeons held its sectional meeting for Pennsylvania, New Jersey, and Delaware at Wilmington, Del., January 16.

Dr. and Mrs. O. G. A. Barker, of Johnstown, recently sailed from New York for a trip around the world. They will be gone for about four months.

Dr. H. H. Muhlenberg, of Reading, has been appointed chairman of the Berks County committee in the University of Pennsylvania endowment campaign.

The Annual Congress on Medical Education, Medical Licensure, and Hospitals was held in Chicago at the Palmer House, February 6, 7, and 8.

Dr. P. Brooke Bland was elected president of the Obstetrical Society at the College of Physicians, Philadelphia, at a meeting on January 5.

The $300,000 addition to the George F. Geisinger Memorial Hospital, Danville, was dedicated January 12. The addition gives the institution a $2,000,000 plant.

The Atlantic Medical Journal extends best wishes to Dr. E. Willis Kobler, the newly appointed editor of *American Medicine* to succeed the late Dr. H. Edwin Lewis.

Dr. and Mrs. George F. Gracey, of Harrisburg, recently returned on the *Adriatic* from Europe. Three months were spent in Vienna where Dr. Gracey was taking postgraduate work.

Dr. Morris A. Weinstein has been appointed chief of the otolaryngological department of Mt. Sinai Hospital, Philadelphia, to fill the vacancy caused by the recent death of Dr. Harry Diamond.

Mrs. Lorena Stehman, of Birdsboro, in memory of her husband, John V. R. Stehman, presented the Reading Hospital with $2,500 for the purchase of an electrocardiograph to be used at that institution.

The Henry Isaiah Dorr Memorial Research Laboratory of Temple University School of Dentistry, made possible by a $50,000 bequest of Dr. Dorr, who died last April, was dedicated at the Dental School on February 1st.

Dr. J. M. Bertolet, of Reading, was slightly injured and Mrs. Bertolet received fractures of the right humerus, and left radius and ulna when the car in which they were driving crashed into a telephone pole on December 18.

Dr. and Mrs. Charles E. Shultz, Castle Shannon, sailed January 16 on the *Caledonia* on a trip around the world. They expect to return on or about June 1. Dr. E. D. Jackson, of New Castle, has taken over Dr. Shultz's practice for this period.

Mr. Edward F. Henson was elected president of the Board of Trustees of the St. Luke's and Children's Homeopathic Hospitals, Philadelphia, at its first annual meeting recently. The corporation is the result of a merger of the two hospitals last spring.

Dr. Leopold Goldstein, of Philadelphia and Camden, N. J., has been appointed a fellow of the Gynecean Hospital Institute for Gynecologic Research of the University of Pennsylvania. Dr. Goldstein recently returned from Europe where he studied in a number of cities.

Dr. Joyce T. Sheridan, medical director of the Philadelphia Life Insurance Company, has been elected president of the Medical Examiners Association. He was formerly secretary of the association, which is now in its twenty-sixth year and is the only organization of its kind.

Dr. William H. Walsh, a member of the Philadelphia County Medical Society, has resigned as executive secretary of the American Hospital Association, and will resume his former practice as consultant in the planning, organization, management, and equipment of hospitals and allied institutions.

Dr. N. H. Hornstine, of Philadelphia, was seriously injured in a motor crash recently when his automobile was struck by a truck. He was taken to Pennsylvania Hospital suffering from concussion of the brain, but x-ray examination revealed no fracture of the skull and he was later reported out of danger.

Dr. Catharine Macfarlane, of the Woman's Medical College Hospital, is an active member of a committee which will establish a memorial for Dr. Caroline M. Purnell, one of the leading surgeons of Philadelphia until her death several years ago, in the new college which is to be erected at Falls of Schuylkill.

Dr. Leon Felderman, of Philadelphia, was recently decorated by France with the cross of Chevalier of the Legion of Honor in recognition of his services to the refugees of France in the regions devastated during the World War. The ceremony took place in the Mayor's reception room in City Hall, Philadelphia.

Commencing March 1, the editorship and the secretary's office of the Michigan State Medical Society will be divorced. Dr. J. H. Dempster, of Detroit, Michigan, will be the new editor of the *Michigan State Medical Journal* and Dr. Frederick C. Warnshuis, of Grand Rapids, will continue as business manager.

Owing to a large deficit last year, and with one just as large in prospect for the coming year, the trustees of the Elk County General Hospital have decided to economize by employing a trained but nonprofessional anesthetist. The training-school class is to be reduced to 15, and various other economies will be put into effect.

Dr. Orlando H. Petty was elected president of the Medical Club of Philadelphia at its annual meeting in the Bellevue-Stratford, January 20. Dr. Charles B. Reynolds was made first vice-president and Dr. Alexander McAlister, second vice-president. Dr. William S. Wray, secretary, and Dr. George A. Knowles, treasurer, were reëlected.

The Tuberculosis League of Pittsburgh has razed its old building to make way for a new structure costing $600,000. The new building is planned on the latest designs for its special purpose, rising in receding tiers to a height of five stories, with a number of open porches. The fifth floor will be used for light treatment.

A gift of $195,000 has been made by the Chemical Foundation to the School of Medicine, Public Health, and Hygiene of Johns Hopkins University for the study of the "origin, nature, and possible cure of the common cold." The gift is to be known as "The John J. Abel Fund for Research of the Common Cold" in honor of the distinguished professor of pharmacology at the University.

Dr. Ross Hall Skillern, of Philadelphia, recently spent some time in Montreal where he made the presentation of the honor medal to General Herbert S. Birkett at a dinner given him by his Montreal col-

leagues. This medal was struck off by the American Academy of Ophthalmology and Oto-Laryngology commemorating the General's election to honorary membership in the Academy, and is the first one ever awarded by this Society.

MR. AND MRS. ALBERT D. LASKER, of Chicago, have established a foundation for medical research at the University of Chicago with an initial endowment of $1,000,000. Their object is to lengthen the span of life through the study of degenerative diseases incurred after the age of 50. The foundation will be known as the Lasker Foundation for Medical Research. Mr. Lasker is a former chairman of the United States Shipping Board which had headquarters in Philadelphia.

A DOZEN SCIENTISTS AND PROFESSORS whose achievements and honors fill column after column in *Who's Who* are named as defendants in a suit for alleged violation of contract by Dr. John A. Detlefsen, of Swarthmore, former professor of genetics in the Wistar Institute of Anatomy. Dr. Detlefsen is suing for $46,500 salary, claiming that he was discharged without justification last May from the post of associate editor of *Biological Abstracts*, but that his services were accepted until October.

DR. WILLIAM W. KEEN, famous surgeon of Philadelphia, celebrated his 91st birthday on January 19. In connection with his anniversary, announcement was made by the Woman's Medical College of a chair of surgery to be established in his honor with an endowment of $100,000 in the new college to be erected in the Falls of Schuylkill. Dr. Keen was professor of surgery at the Woman's College for seven years prior to 1900. Twenty-four thousand dollars has been already received for the Keen Chair of Surgery fund.

THE NEW JEANES HOSPITAL at Fox Chase, Philadelphia, was dedicated January 25. The new hospital was made possible by the beneficence of the late Anna T. Jeanes, whose bequest for the institution with accretions of income has now reached a total of $2,815,768. The bequest is to be devoted to the establishment and endowment of "a general hospital or infirmary for cancerous, nervous, and disabling ailments." Dr. Roscoe W. Teahan is medical director, and the superintendent is Miss Katharine Brown, formerly of Bryn Mawr Hospital.

A FITTING AND IMPERISHABLE TRIBUTE to the name of Sir William Osler was paid December 28 in the unveiling of the monument erected by the Hamilton Medical Society (Hamilton, Ontario), in the old Union Cemetery at Hamilton, in sight of Sir William's boyhood home, overlooking the marsh in which he carried on his early investigations and collected specimens for his biological work. The memorial is built of granite boulders gathered from the fields of the neighborhood "in appearance in keeping with the character of the man himself."

THE NEW ROOSEVELT FLOOR in the Samaritan Hospital, Philadelphia, which was dedicated December 28, will be a fitting memorial to the Roosevelt Hospital which operated for nineteen years and which was closed in January, 1924. The old institution was named for President Roosevelt, and was started in the home of Dr. Franklin Brady, who has been appointed clinical professor of surgery at Temple University. The $57,000 resulting from the sale of Roosevelt Hospital was given to Samaritan for the Roosevelt floor and to aid in development of the new Temple University School of Medicine.

THE JOURNAL OFFICE has been asked to publish the following: Warning should be issued to the profession concerning a man claiming to be J. F. Dollahan, D.D.S., 1001 Western Ave., Pittsburgh, age 55 to 60, rather unkempt in appearance, about five feet two inches tall, weighing about 170 pounds, grayish hair, crippled left hand and some deformity of the right, which he claims is due to a rheumatic arthritis. He also claims registration with the Bureau of Drug Control of the State Department of Health, which is false, and says that his father and brother are physicians in Illinois. He generally attempts to "panhandle" physicians. He also claims that he is in the mattress business in Pittsburgh under the name "Roll-Up Mattress Company."

THE UNITED STATES CIVIL SERVICE COMMISSION announces open competitive examinations for the following positions: assistant medical officer, associate medical officer, medical officer, and senior medical officer. The examinations are to fill vacancies in various branches of the service throughout the United States. There will also be an examination for junior medical officers (intern) to fill vacancies in Veterans' Bureau Hospitals throughout the United States. Applications for these positions will be rated as received by the Civil Service Commission at Washington, D. C., until June 29, 1928. Full information regarding these positions may be obtained from the Commission or the secretary of the United States civil service board of examiners at the post office or customhouse in any city.

AN INSTITUTION to be known as the Skin and Cancer Hospital of Philadelphia has recently been organized, with Edgar B. Moore as president. Mr. Moore is president of the Penn Worsted Mills and a director of the Benjamin Moore & Company paint manufacturers of New York. A building to house this institution has been purchased, and is located at 806-8 Pine Street, Philadelphia, and after being remodeled and renovated, will be in full running order for the reception and treatment of all classes of skin cases. The building will also be equipped with laboratories for research work, especially for the investigation of the well-known resistant and chronic forms of diseases of the skin and cancer.

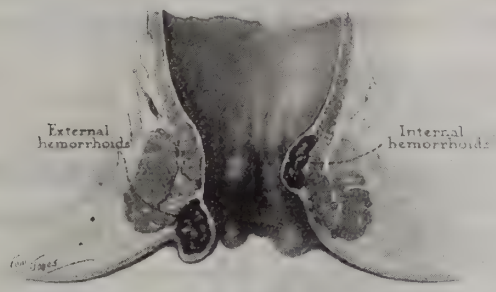
A board of directors composed of representative Philadelphians have cast their lot and enthusiasm into the work, and Dr. Albert Strickler, who is professor of dermatology at Temple University, will have full power as medical director. A new departure will also be instituted in the opening of dispensaries and clinics to be held in the evening for those unable to attend during the day.

DR. A. A. CAIRNS has been appointed Director of Public Health of Philadelphia. His reorganization plans include the reduction of thirteen divisions in the Bureau of Health to five. Three division chiefs are to be dropped, those of Tuberculosis, held by Dr. Ward Brinton, at $4,000 a year; Milk and Food, held by David C. Clegg, at $2,700, and Epidemiologist, held by Dr. Albert H. Smith, at $4,000. The five divisions created are Housing and Sanitation, Child Hygiene, Communicable Diseases, Laboratories, Health and Board of Health. Dr. Harriet L. Hartley will become chief of the Division of Child Hygiene. The Division of Vital Statistics will be merged in the new Division of Communicable Diseases and the present head will be Registrar of Vital Statistics.

AT THE THIRD ANNUAL MEETING of the Pennsylvania Heart Association, held in Pittsburgh, October 5, 1927, the following officers were elected: president, Dr. James D. Heard, Pittsburgh; vice-presidents, Dr. John B. McAlister, Harrisburg, Dr. Francis Dever, Bethlehem, Dr. W. G. Falconer, Clearfield, and Dr. Jesse L. Lenker, Harrisburg; secretary, Dr. Thomas McMillan, Philadelphia; treasurer, Dr. William S. Bertolet, Reading. The association is not standing still; the present stage of the work requires personal work among individual physicians rather than any widespread campaign of publicity. At this meeting the State Department of Health offered to coöperate

(Concluded on page xviii.)

CANCER OF BOWEL



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MEDICAL NEWS

(Concluded from page 358.)

with the Pennsylvania Heart Association to the fullest extent possible, offering equipment and personnel in the State clinics in order that heart clinics might be developed. In pursuance of this policy the Heart Association has secured the assistance of some thirty well-trained, actively interested doctors throughout the State, who are willing to begin heart clinics in their communities. These clinics will use the physical equipment of the State Department of Health. In other places where this is not necessary they will work in various other state-run dispensaries and clinics.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

PHYSICIANS OF THE MAYO CLINIC AND MAYO FOUNDATION. With portraits. Philadelphia and London: W. B. Saunders Company, 1927. Cloth, 578 pages.

This volume provides "in brief form complete and accurate data concerning the professional life of each physician who, prior to January 1, 1926, had been officially connected with the Mayo Clinic or the Mayo Foundation for a period of one year or more..... It is intended primarily for reference by these institutions, by ex-members of their staffs, and by medical societies and libraries. It is hoped it also may be of some interest to the many friends of the institutions named."

The volume well fulfills its purpose, and will be welcomed by those for whose use it is intended.

A TEXT-BOOK OF PHYSIOLOGY. For Medical Students and Physicians. By William H. Howell, Ph.D., M.D., Sc.D., LL.D., Professor of Physiology in the School of Hygiene and Public Health, Johns Hopkins University, Baltimore. Tenth edition, thoroughly revised; 1,081 pages, illustrated. Philadelphia and London: W. B. Saunders Company. Price, $6.50.

With characteristic modesty Dr. Howell states in the preface of this tenth edition: "In view of the great volume of experimental work upon physiology that is continually appearing in our journals, and the fact that special disciplines are required for a full comprehension of the advance along different lines, it is almost presumptuous for any one worker to attempt to give a presentation of the status of the whole subject..... There is, however, a certain obligation, in the case of a book already established, to maintain its usefulness as far as possible by the preparation of new editions at frequent intervals."

The advantages of a textbook written by one author are notable in giving continuity of thought and correlation of phenomena which cannot be secured by the other type of book in which the various topics are presented by specialists. Dr. Howell is eminently fitted to present this type of book by virtue of his great experience in laboratory work and teaching, and also by virtue of his very logical and keenly analytical intellect.

Contrary to many physiologists, who begin their textbooks with the study of the blood (the great chemical correlator), Dr. Howell considers first the physiology of muscle and nerve, the central nervous system, and the special senses (the great nerve correlators). This order is doubtless used in the belief that the knowledge of the physiology of these mechanisms is a logical preparation for an understanding of the

(Continued on page xx.)

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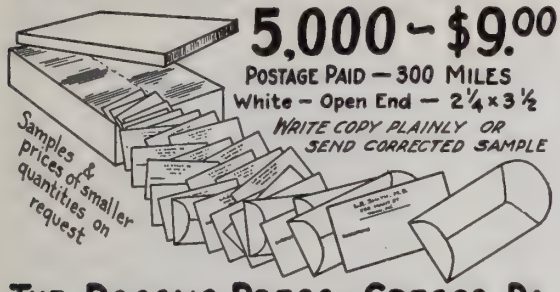

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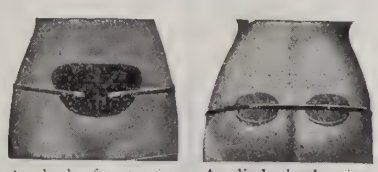

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BOOK REVIEWS

(Continued from page xviii.)

functional relation of the nervous system to the other parts of the body. Then follow sections on blood and lymph; physiology of the organs of circulation of the blood and lymph; physiology of respiration; physiology of digestion and secretion; nutrition and heat production and regulation; physiology of reproduction; and the appendix, which considers proteins and their classification, also diffusion and osmosis.

The text is adequately illustrated, contains several historical outlines, considerations of important theories, clear descriptions of experiments, practical application of the knowledge of physiologic phenomena, and valuable references. The author says that references have been selected usually with the idea of citing those works which themselves contain a more or less extensive discussion and literature; and that occasionally references have also been made to works of historical importance or to separate papers which contain the experimental evidence for some special point of view.

The fact that Howell's *Textbook of Physiology* is now presented in the tenth revised edition is an index of its measure of success. In this, as in previous editions, Dr. Howell lives up to the tradition that his textbook fills the need of the medical student, the teacher, and the physician.

THE SURGICAL CLINICS OF NORTH AMERICA (Issued serially, one number every other month), Volume 7, number 3 (Chicago Number—June 1927). Per clinic year (February 1927 to December 1927) paper, $12, cloth, $16 net. Philadelphia and London: W. B. Saunders Company.

The articles in this number are contributed by many of the surgeons of Chicago. The material covered embraces many phases in surgical pathology, diagnosis, and treatment, and is well worth the perusal of specialists interested in the many subjects which are discussed.

TEXTBOOK OF BACTERIOLOGY. By W. W. Ford, Professor of Bacteriology, School of Hygiene and Public Health; Lecturer on Hygiene, School of Medicine, Johns Hopkins University. Philadelphia: W. B. Saunders Co., 1927. Price, $8.50 net.

Those whose recollections go back as far as the first appearance of Klein's *Microörganisms and Disease* in 1884, and who well remember the little red book with its 250 pages of new technic and interesting description, may best be able to appreciate the advance of knowledge that now makes necessary this present new book of 1,070 pages—large pages printed in small type.

It is true that by 1892 Sternberg's *Manual of Bacteriology* had grown to be a massive volume of 886 pages with 268 illustrations, and in 1919 McFarland's *Pathogenic Bacteria and Protozoa* had 858 pages and 330 illustrations; but the former was padded with an enormous and mostly useless bibliography, and encumbered with lists and copied descriptions of bacteria of no known interest or importance, while the latter was in part made up of protozoölogy and entomolgy. The death of Sternberg relieved his publisher of the former, largely obsolete, and its too mixed character determined the Saunders Company to discontinue the latter. The demand was said to be for *smaller books!*

But bacteriology, being a growing science, cannot be confined within the scope of some prescribed number of pages, and the proof of that fact is shown by the appearance of the present work.

One's first impression is that he is in possession of a kind of one-volume encyclopedia and, it is with some surprise that he reads in the preface that "It is manifestly impossible for a single individual to command more than a small part of bacteriology, so widely has this source developed along new lines during the past few years....

(Continued on page xxii.)

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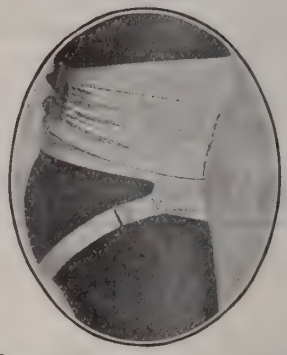

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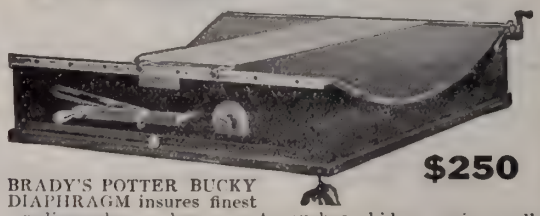

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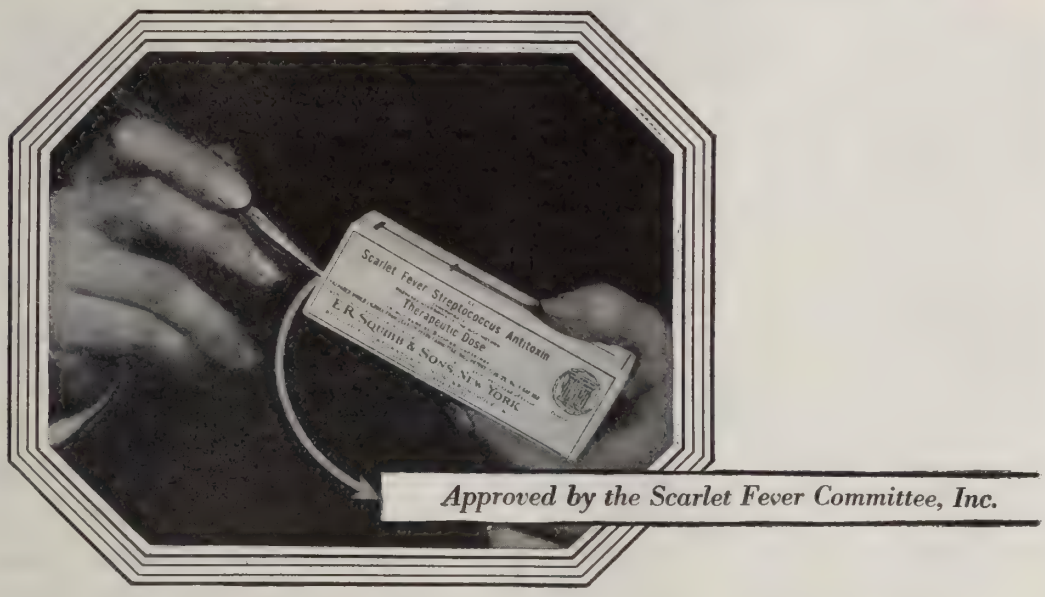

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BOOK REVIEWS

(Continued from page xx.)

This textbook is not intended to present systematic bacteriology in its entirety. Indeed, it is doubtful if any system of bacteriology could be made satisfactory in the present state of confusion. In certain particulars, however, an attempt at completeness has been aimed at. Thus, especial emphasis has been laid on the descriptions of the pathogenic organisms responsible for disease in man and animals." Thus the real scope of the work is defined, and one familiar with the seven or eight great volumes of Kolle and Wassermann's *Handbuch der pathogenen Mikroörganismen* sighs with relief to learn that the author, in this single volume, aims at "the complete description of the pathogenic microörganisms responsible for disease in man and animals," and to find that he accomplishes it so well.

One need only turn over a few pages to find in the arrangement and quality of the text a reflection of the profound erudition of the author, and read but a few lines to discover the lucidity of his expressions. He is to be congratulated upon having produced so excellent a summary of the principles and facts of bacteriologic science, and placed them within the reach of all; and the profession is to be equally congratulated upon a notable addition to the excellent medical textbooks. But mingled with these just expressions of congratulation, it is difficult to escape a certain amount of commiseration for those future students of medicine who will be expected to acquire all of this special knowledge.

THE SURGICAL CLINICS OF NORTH AMERICA. Volume 7, Number 5 (Pacific Coast Surgical Association Number—October, 1927.) 266 pages with 132 illustrations. Per clinic year, paper, $12; cloth, $16 net. Philadelphia and London: W. B. Saunders Company.

In this issue the general surgical field is again covered in a practical clinical manner which favorably portrays the work being done on the Pacific coast. Of special interest to any general surgeon is a most excellent contribution by Dr. Robert C. Coffey, who presents five cases of cancer of the pelvic colon and rectum, each case showing a different phase in the technic of operation as described in his recent article on cancer of the colon. Space prevents naming of all the authors. Goiters, toxic and malignant, are well presented.

BRONCHOSCOPY AND ESOPHAGOSCOPY. A Manual of Peroral Endoscopy and Laryngeal Surgery. By Chevalier Jackson, M.D., Sc.D., LL.D., F.A.C.S., Professor of Bronchoscopy and Esophagoscopy, Jefferson Medical College; Professor of Bronchoscopy and Esophagoscopy, Graduate School of Medicine, University of Pennsylvania. Second edition, reset; 457 pages with 179 illustrations and 10 colored plates. Philadelphia and London: W. B. Saunders Company. Cloth, $8.00 net.

This second edition has for its *raison d'être* the exhaustion of the first edition, and since previous works of the author are also out of print he has broadened the scope of the present work. This is a working manual setting forth the fundamentals of the working knowledge of the endoscopy of today gained through the experience of the author and his coworkers.

After defining endoscopy, its distinct field of usefulness and great advance, due to the demands of scientific medicine, he describes at length, with graphic illustrations, instrumentation, anatomy of the tracheobronchial tree and esophagus, with special reference to landmarks important in endoscopy, preparation of the patient, and technic of all the procedures, with their difficulties and complications.

One chapter is devoted to acquiring skill. In this the author emphasizes the necessity for training the eye and fingers by practice on cadaver, dog, and mani-

(Concluded on page xxiv.)

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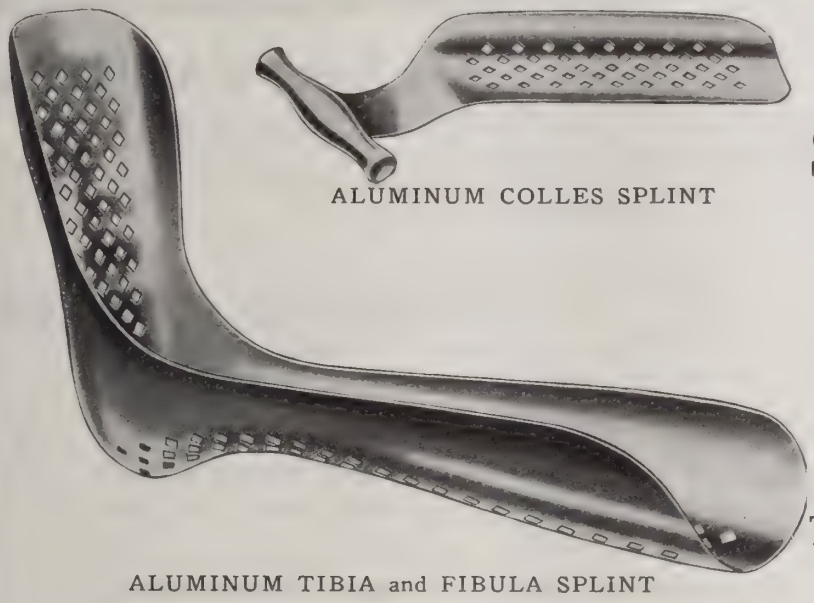

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BOOK REVIEWS

(Concluded from page xxii.)

kin before attempting bronchoscopy upon a human being Several chapters are concerned with foreign bodies in the air and food passages, their variety, etiology, pathology, symptomatology, diagnosis, and technic for removal. The mechanical problems incident to the removal of foreign bodies are described in detail and illustrated by the author's original drawings. Endoscopy for diagnosis and treatment of disease of the air and food passages and tracheotomy are covered in the later chapters.

Since the work is stripped to bare essentials, the author has appended an exhaustive bibliography of publications of the bronchoscopic clinic for collateral reading. This latest work, written in Dr. Jackson's clear, concise, inimitable style, covers the subject of endoscopy so exhaustively that it should appeal to every internist as well as every student of bronchoscopy.

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A Study of the Material in a Neuropsychiatric Clinic*†

FUNCTIONAL NEUROPSYCHIATRIC CASES FROM THE STANDPOINT OF ETIOLOGY, CLINICAL SYMPTOMS, AND TREATMENT

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A study of the material in a neuropsychiatric clinic should be of great interest, and a review of the records of the last five years confirmed this opinion. Roughly speaking, about forty per cent of all the cases were of organic character. These consisted of the usual run of brain, spinal cord, and peripheral nerve diseases; but epilepsy, the residuals of encephalitis, chorea, and the neuritides were in the majority.

One fourth, or twenty-five per cent, were classified as psychoneuroses. The neurasthenic type predominated. Then in order came the anxiety neuroses, habit spasms and tics, psychasthenia, sex neuroses, nervousness in children, and lastly hysteria.

A very interesting group, consisting of ten per cent of our material, were patients in whom no nervous disease of any kind was found. Considering the fact that they came to a nervous clinic, it is only fair to assume that the majority had at least some anxiety regarding their symptoms, and therefore some of them could be classified among the anxiety neuroses. In many of these, however, examination denoted a general medical condition.

The endocrinopathies formed five per cent. The larger proportion of these had disturbances in the realm of the pituitary or thyroid glands.

The remaining twenty per cent were classified among the psychoses and allied groups. Of these, the frank psychoses formed about ten per cent. The largest number were cases of dementia præcox and paresis. In the so-called allied groups about eight per cent were either mental defectives or constitutional inferiors. About two per cent could be labeled as conduct disorders.

This survey is illuminating, and shows the large variety of cases which come to a neuropsychiatric clinic, not the least interesting of which is the group of cases forming ten per cent in which no nervous diseases were found. This grouping obviously points to the fact that the neuropsychiatrist should have a general medical training. As in other specialties, the twentieth-century neuropsychiatrist needs a far different preparation than was deemed necessary fifty years ago when neurology first began and the neurologist was graduated from the ranks of the general practitioner. In our modern days of graduate medical schools, such as that of the University of Pennsylvania which offers the best-regulated courses in graduate medicine anywhere in the world, the specialist finds after he has begun to practice that he needs to know a great deal of general medicine. Therefore, the specialist either has to have a group coöperating with him or to have a hospital available which furnishes him laboratory equipment and whatever consultants are necessary.

Both these plans are used in the conduct of my clinic at the Infirmary for Nervous Diseases. Here not only are the history and examination carefully taken from the neuropsychiatric standpoint, but in every instance there is a general medical survey. Attached to the clinic besides the neurologists are a general practitioner, a neurosurgeon, a psychologist (all children being given a mental rating), a nose, throat, and ear consultant, an eye consultant, and a well-equipped laboratory and hospital. Our experience has shown that in very few cases is it possible to come to an accurate diagnosis in the first interview with a patient, which usually consists of about a two-hour examination. Nearly always, laboratory work is indicated with further examinations, and, if the case is at all difficult, the patient is admitted into the hospital for a medical survey with laboratory and x-ray examinations, which usually take a week and frequently longer. Finally, after the case is thoroughly worked up, the patient is presented in conference so that the combined opinion of

*Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 4, 1927.

†From the Infirmary for Nervous Diseases, Philadelphia, Pa. There are three separate neuropsychiatric clinics. The other physicians to the hospital are Drs. Charles W. Burr and Francis W. Sinkler.

the clinic is available for the diagnosis of his malady. In the majority of the organic cases all of the above is not necessary, but in the neuroses it nearly always is.

The Psychoses

In this discussion we shall dwell only upon the so-called functional cases, and will discuss the psychoses first. There is no need to elaborate upon the obvious mental cases. It is necessary only to mention the fact that the modern conception of insanity is such that no patient should be labeled hopeless unless an attempt is made to find and remove the cause, and that every patient should have the benefit of hospitalization and treatment.

I wish to emphasize only one phase of this problem; that is, the suicides. Not a day passes but newspapers carry an item of a suicide. In metropolitan dailies two or three are mentioned daily. Many of these are preventable. No experienced neuropsychiatrist takes a depression lightly. This business of saying that because an individual has talked of suicide for a long time, therefore he will not commit suicide or does not have the courage, is not in accord with experience. It is natural that a patient be depressed when there is something wrong with him. In my judgment, the statements on the part of patients that they have contemplated taking their own lives should be taken with the utmost seriousness, and the causes for the depression analyzed and, if possible, removed. It is a matter of statistics that most depressions are curable, but the general medical and lay public are not aware of it. The important point is that the depressed patient must be adequately guarded during the depression so that needless tragedies may be prevented.

The Psychoneuroses

Whenever a patient comes to a neurologist complaining of various neurotic symptoms, these are treated with the same respectful interest that would be accorded a man who had pain in his right iliac fossa with all the symptoms of an acute appendicitis. Why should any patient come to a physician and pay his fee only to be told that there is nothing the matter with him and to "forget it," or be given some harmless pills possibly with valerian with the hope that this will cure him? And yet that is the way many patients are treated. It is no wonder that many such patients are driven to the various outlaw cults where they are told that they have something seriously wrong with them which can be remedied by certain manipulations at so much per treatment.

One difficulty is that physicians as a whole do not seem to recognize such a thing as a psychogenic origin for pain and a host of symptoms which can easily be pointed out. That the internist is beginning to realize this is evidenced by the pleasing fact that in the last meeting of the Section on Internal Medicine of the American Medical Association held in Washington in May, 1927, the title of the chairman's address was "Psychic and Emotional Factors in General Diagnosis and Treatment." To quote the last sentence of the concluding paragraph: "All men, normal or sick, have emotions and emotional conflicts and all are affected physically by them." The chairman's address was followed by a symposium on the "Psychic Factors in Disease," this consisting of four papers which appeared in the September 24, 1927, issue of the *Journal of the American Medical Association.* In the same number is an editorial which calls attention to the psychic factors in general disease, and points out that the nervous system is divided functionally into several levels. Of these, the vegetative apparatus is the oldest in development, the cerebral cortex the most recent, and between the two in point of evolution are the various reflex centers. The whole is united by association paths. Accordingly it is not difficult to understand why mental states associated with anxiety, fear, depression, despair, and prolonged conflict should cause disorders in other portions of the nervous system controlling visceral and somatic functions. Heart disorders are sometimes accompanied by psychic abnormalities of two main types. In one, mental disease follows, whereas in the other there is a primary mental disease in which there are symptoms referable to the heart and other organs. One third of the patients who come to the consultant because of digestive complaints are of the psychoneurotic type. Emphasis is laid upon the psychic upsets which accompany goiter, diabetes, diseases of the nose and throat, and so on. All this is a sign of progress.

Of the various types of neuroses, I shall emphasize only one group because they are the most troublesome to treat. They are the men and women who can be best classified as the inadequates, for they do not fall into any of the accepted classifications of the neuroses. Most of them do very well in early adult life, but as soon as they are called upon to bear some of the burdens of life, such as bearing a child, if a woman, or working hard, if a man, they break down. Examination of these individuals frequently elicits bad family histories, and the physical examination discloses very little which can be used as an indication for treatment.

These are the patients who believe that they have all sorts of somatic diseases, pains of various kinds, who cannot sleep, are always tired and nervous, and always take drugs to make them feel better, or if not that, some form of stimulation. They are the group that develop into drug addicts or alcoholics. Usually they are very keen and intelligent. It is not their fault that they are inadequate. Usually there is some hereditary basis and an inferior constitutional make-up. Such patients can be successfully handled only by an intelligent realization of their difficulties with an effort to make them adjust themselves to the situation in which they find themselves.

I wish to call attention to the rarity of hysteria. Years ago this diagnosis was frequently made. During the war and soon after, the occurrence of hysteria was not uncommon, but it is comparatively rare in private practice and in the clinics. In fact, whenever any of my assistants make a diagnosis of hysteria, my natural impulse is to assume that they are wrong, for many of my own mistakes have resulted from such a diagnosis. To make a diagnosis of hysteria, every other possibility should first be ruled out.

The statement has been frequently made that the French are the most nervous and hysterical people in the world, and it has been commonly assumed that all the Latin races have this quality. This is not true, for I believe that the northern races are just as hysterical. For me, the term hysterical does not mean what it does to the majority. What is usually meant by the term hysterical is emotional. I believe that all people are equally emotional, the only difference is that the Latins show their emotions much more openly than the Anglo-Saxons.

The terms, nervous or hysterical, are frequently used in a slurring or reproachful sense, and a great many patients refuse to go to a hospital because it is labeled a nervous hospital, or to consult a neurologist for the same reason. As a matter of fact, most so-called emotional or nervous people belong to the intelligent classes. One cannot imagine a coal-digger or a stevedore being emotional in the same sense that, for example, a doctor is.

Treatment

A word as to treatment. After a careful medical survey, treatment should proceed along two lines: (1) according to the indications as pointed out by the clinical examination, and the laboratory and physical tests; (2) psychogenic lines. No patient should be told that there is nothing the matter with him, for the mere fact that he comes to a physician is an indication that something is the matter with him. It would be impossible in the limits of this article to do more than indicate the lines along which one should proceed. I wish only to emphasize that many nervous symptoms are the result of marital incompatibility, and that all phases of the social problem of patients should be gone into and adjusted if possible. Most important of all, the personality of the individual should be studied. One reason for the success of the old-time general practitioner was the fact that his generations of contact with the family gave him a knowledge of their personality. Such an understanding and sympathy are far more valuable than medicines.

The use of physiotherapy should be emphasized. The success of the osteopaths, chiropractors, and other cults is due to the use of means which have always been in the hands of physicians had they only recognized it. Over forty years ago Weir Mitchell pointed out that he was somewhat fearful in developing and standardizing massage and manipulations because he was afraid that they would fall into the hands of charlatans. Had physicians heeded his warnings, these modern cults would never have existed. Similarly, had physicians recognized the psychogenic factor in disease, Mrs. Eddy and the Christian Science Church would never have come into being.

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SOME OF THE ORGANIC NERVOUS DISEASES IN A NEUROPSYCHIATRIC CLINIC, AND THEIR TREATMENT

C. A. PATTEN, M.D.
PHILADELPHIA, PA.

The organic material in the Philadelphia Infirmary for Nervous Diseases embraces almost the entire field of neurology. It would be impracticable to attempt a discussion of all the diseases, and there is no point in so doing since no progress has been made in either the diagnosis or treatment of many of them. I shall, therefore, take up briefly a few of the conditions which are, so to speak, everyday problems in the clinic.

Pain

Probably more patients enter a neuropsychiatric clinic complaining of pain than of any other single symptom. Not only do they seek relief from pain, but also from many allied sensations, such as numbness, burning, tingling, and "needles-and-pins" feelings. The majority

of these patients, however, have no discoverable organic nervous condition. A certain proportion of them are psychoneurotic, and the remainder, on close analysis, fall into two main groups—the arthritic and neuritic. Excluding the functional cases, and considering only those in which there is definite pain, there are very few that can be properly diagnosed as neuritis. Of about 1,400 cases, only 42 have shown evidences of peripheral neuritis of an irritative nature. The typical symptoms of neuritis are not infrequently lacking, and rarely do we find pain, tenderness over the nerve trunks, trophic disturbances, electrical changes, fibrillation, etc. The histories show that most patients are comparatively comfortable when at complete rest, but their pains are distinctly increased on motion.

For example, eight cases which entered the clinic with a diagnosis of sciatic neuritis are summarized: The age of the patients varied from 25 to 67. The duration of the disease was from 5 weeks to 12 years. Motion caused increase in the pain in 5 cases. Pain was localized in the back in 5 cases, and there were shoulder or hip pains in 3 cases. In all cases, however, there was pain in one or both lower extremities of a lancinating, stabbing, aching character. Lasègue's sign was positive in but 3 cases, though movement of any sort increased pain in them all. The ankle jerk was absent on the affected side in but one case, and very few trophic disturbances were noted. The x-ray examinations showed either osteo-arthritis or abnormal positions of the vertebræ in 6 of the 8 cases. Foci of infection were unmistakable factors in 6 cases, injury to a sacralized fifth lumbar vertebra figured in another case, and no etiologic factor could be found in the one remaining case.

All cases were treated by massage, baking, and mechanical appliances after the removal of foci of infection and the correction of any abnormal physical condition. The teeth and tonsils were the apparent sources of infection in most cases, with sinuses, middle-ear disease, infection of the gall bladder and prostate in others. In so far as prostatic infection is concerned, we have come to agree with the genito-urinary surgeons that involvement of the prostate is oftentimes secondary to tonsillar sepsis, and that removal of the tonsils is fully as important as local treatment to the gland itself.

In so far as results are concerned, it could naturally be foretold that cases of arthritis would yield less readily to treatment than the others, but in time all terminated in practical recovery.

From the standpoint of diagnosis in these eight cases, not one could be classified as typical sciatic neuritis. The majority were cases of lumbosacral radiculitis—an accompaniment of an arthritic condition of the lumbar spine. The same thing was found to be true of the other localized neuritides; muscle conditions, osteoarthritis, or injury being found to be the cause of the disturbance. In the peripheral or multiple-neuritis cases all the postulates for a true neuritis were in evidence, and definite etiologic factors were found.

Encephalitis

In the last four years, 55 cases of encephalitis have entered the clinic for relief of chronic progressive symptoms. The majority of them have shown parkinsonism, and many of them have had abnormal movements. We have come to look upon this disease as a chronic progressive affection, and make a diagnosis of chronic encephalitis. The diagnosis, as a rule, is not difficult, except in the very early chronic stages when some cases have resembled a psychoneurosis. This possibility is easily understood when the history of an acute attack is obtained, and it is found that the patients are very suggestible. Closer analysis, however, usually reveals some evidence of organic disease and, some months later, a very definite parkinsonian state. The suggestibility of these patients may be due to the cerebral involvement, since one of the commoner of the characteristics, from a psychic standpoint, is lack of inhibition. These patients seem to be unable to withhold information, and have little ability to conceal facts as does the ordinary psychoneurotic or other patient. This, we consider, is one of the small points of differentiation.

These cases are very pathetic, and arouse one's sympathy more than any other single group. So frequently the disease comes on in adolescence or early adult life, cutting them down when they should be most active and vigorous. They are so distinctly a burden, not only to themselves but to their families, that they travel about from one clinic to another, or one physician to another, in the hope that some miracle can be performed and a cure effected. We have faced the proposition that this disease is chronic and progressive, and that no therapy has yet been brought forward to meet the situation adequately. It seems inhuman, in a way, to sit with folded arms and watch these cases go on to complete helplessness.

Considering that other types of chronic infections are amenable to various types of therapy, we have predicated that chronic encephalitis might possibly respond in the same man-

ner. Considering the efficacy of malaria in the treatment of syphilis, we attempted to procure malaria plasmodia for a therapeutic agent. It was difficult, however, to find a patient with malaria who was not also syphilitic.

On consultation with Dr. Kolmer, it was decided to attempt the use of Coley's fluid intravenously. This was undertaken purely as an experiment, and it is still an experimental proposition. The results to date are, if anything, entirely uncertain and still questionable. We hoped that by giving Coley's fluid intravenously and producing a fever reaction we would stir up the body defenses, and thereby influence the progressive course of the disease. Our cases have been very largely selected, including only those who were comparatively healthy in all other respects and capable of taking care of themselves. We felt that many cases had progressed so far that, even though the disease was checked, the patients would remain in the same helpless condition as long as they lived.

Coley's fluid was administered in small doses at the start, usually about one fourth of a minim in salt solution. Some curious reactions were obtained, but the majority of cases responded with chills and fever, and rather marked constitutional symptoms. These symptoms lasted from six to twelve hours. The patients complained of headache, backache, drowsiness, nausea, and vomiting. As soon as the temperature and constitutional reactions subsided, they invariably stated that they felt very well, not only as well as before the injection, but perhaps a little better than before starting treatment. Our desire was to obtain a temperature reaction of 104° to 105° if possible, but we found that this was very difficult because of marked individual variations. We also found that the dosage had to be increased at each subsequent injection, or the desired reaction could not be obtained. The patients, according to their ability to stand treatment, were given about ten injections. After such a series they were given mercurosal intravenously in 1/10-gram doses for from ten to twenty doses. This was followed by ten injections of neoarsphenamin in 3/10-gram amounts for ten doses in most cases. Later, the patients, according to their needs, might receive hyoscin hydrobromid, in 1/100- to 1/150-grain doses, three times a day.

It has been noted that after a series of Coley's-fluid treatments, many of the patients look better physically, the skin becomes clearer, and the mental condition is improved. This treatment, however, was always given in the hospital, and the patients were kept more or less at rest during that time, and these factors, plus those of elimination and proper diet, may well have accounted for some of the improvement that occurred. A certain number stated that they were very distinctly and definitely benefited by the treatment, and others reported negative results. At some future time these cases will be reported in greater detail. The younger the individual, it seemed, the better were the results obtained, but in order to be sure of the efficacy of such a therapeutic procedure, another five years must elapse, since these patients sometimes make spontaneous improvement and some of them do not progress at all rapidly.

Chorea

In the last four years 125 cases of chorea have been examined. Some of them have been admitted to the hospital and some have been treated as outpatients. Our experience with them in both situations has forced upon us certain conclusions. In the first place, this disease is definitely regarded as an organic disease—the effects of toxins upon special areas of the central nervous system. Pathologic studies, reported by both American and foreign authors, have demonstrated pretty definitely that this is the case. In many respects, there is something of a similarity between chorea and epidemic encephalitis, as the areas involved pathologically—the striatal system and cortex—and the clinical manifestations of uncontrollable movements are common to both diseases. In chorea, however, there seems to be no permanent damage to the brain tissue ordinarily, but a functional impairment for a rather definite period. In encephalitis there are nearly always organic changes, with persistence and progression of symptomatology. This point is emphasized because St. Vitus's dance is so frequently diagnosed psychoneurosis and treated accordingly.

From the standpoint of differential diagnosis, chorea is occasionally mistaken for a paralysis of some sort because of the weakness and uselessness of one or more extremities—the so-called paralytic chorea. There is, however, no spasticity, Babinski, nor clonus in chorea. Tics of various types, particularly generalized tic, resemble chorea very closely. In cases of tic, however, there are usually definite psychic mechanisms to account in part for the trouble, and very few of them have the tongue movements that are always seen in chorea. The history of a rather abrupt onset, without previous evidence of nervousness or movements, differentiates chorea from the "nervousness of children" with restless movements. The latter give a history of a long-continued nervousness.

The specific etiologic factor in chorea is not

known. Whether it is the same in every case or variable is an open question, and further research along these lines is needed. Its association with the so-called rheumatic diathesis—tonsillar infection and endocarditis—is striking, but no one can definitely state the relationship.

Clinically, however, chorea is a clear-cut entity, and it is the treatment that I wish to emphasize. The staff of the Philadelphia Infirmary for Nervous Diseases, past and present, have probably contributed more to this subject than any other group. S. Weir Mitchell, Wharton Sinkler, John K. Mitchell, Morris J. Lewis, and Charles W. Burr have added much to the general knowledge of the disease and, in particular, of its treatment. Out of the various formulas and régimes, medications and methods, certain therapeutic principles have crystallized, and the results obtained speak for themselves.

In the first place, in the treatment of chorea, rest is an absolute essential—complete rest in isolation. The patient must be kept in bed until all abnormal movement has ceased. Exceptionally these conditions can be obtained at home, but for the most part chorea is a hospital disease. At home there are usually other children, and parents cannot, as a rule, appreciate the necessity for keeping the child strictly alone. The solicitation of the various members of the family for the patient's welfare, let alone the noise and excitement, are continued sources of irritation. Ideally, the patient should have a room to himself, and no one be allowed to enter except the nurse or the member of the family who acts in that capacity.

In the hospital, the various facilities for thorough physical investigation are called upon freely, and contribute no small share to the expeditious handling of the case. All possible foci of infection or toxemia must be sought out and eliminated or combated in the proper manner. If the child cannot have a single room in the hospital, its bed should be screened continually to cut off the distraction of other patients, and complete the isolation so far as is possible. It must be remembered that all of these patients are extremely conscious of their abnormal movements and embarrassed by them. This is particularly the case when they are eating, and it is best for them to eat unobserved at all times. As Dr. Burr pointed out in his contribution to the subject in 1925, the mental and emotional disturbances which are present must be as carefully considered as the physical manifestations.

Diet is a very important consideration, as chorea patients often get insufficient quantities of food because of the difficulty in eating. In the earliest stages of the disease a bland diet, reinforced by milk between meals, is prescribed, but if there is an elevation of temperature, the child is kept on liquids. Rarely do these patients have digestive disturbances, but it is nevertheless difficult to build them up. Not infrequently they fail to gain in weight until convalescence is well established. There is no special diet prescribed, but a liberal allowance is made of the plain wholesome foods.

Undoubtedly, rest, isolation, and proper diet are the most important therapeutic factors, but the movements themselves require attention, as they exhaust the patient if allowed to continue unabated. Experience has taught us that there is no specific medication, but that best results are obtained by the use of bromids and luminal for sedative action; iron in some form for the anemia; and salicylates for the supposed rheumatic tendencies. It has never been proved that arsenic in any form has any particular advantage except as an alterative. Sedatives are used in large doses until a noticeable effect upon the movements is obtained, when they are cut down. Sleep is very necessary and important, and a nap during the day is a part of the program. In the Infirmary, bromids are used during the day and luminal at bedtime.

If the patient has no fever, endocarditis, or other contraindication, a prolonged warm bath each day has a decided quieting effect. Violent movements have been noticeably lessened by this form of therapy alone, and to most patients it is a welcome procedure. Daily massage is of considerable value in improving the general condition, and is given in every case.

As the movements cease, certain slight diversions are allowed the child, such as toys, books, etc., but sitting up or getting out of bed is prohibited until all choreic manifestations have cleared up. Getting out of bed and about is a gradual process, a little more time being added each day until the whole day is utilized. After this, graduated exercises are prescribed, and the patient is allowed to finish out the term of convalescence in the country or at the seashore.

All medical responsibility, however, does not end here, for the patient needs a careful follow-up for a long period to prevent a recurrence. This point needs great emphasis, for too frequently the physician allows the child to resume all his former habits of living. Exhaustion seems to play a part in the inception of the disease, and this probably accounts for the greater number of cases occurring near the end of the spring term of school, or at the end of a too active summer vacation.

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FUNCTIONAL AND ORGANIC NERVOUS DISEASES FROM THE STANDPOINT OF THE GENERAL PRACTITIONER

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The neuropsychiatric clinic of the Orthopedic Hospital has afforded an unusual opportunity for the study of a large number of both functional and organic cases of nervous diseases. This study has been particularly interesting because it illustrates the fact that many cases of nervous disease can and should be handled by the general practitioner. Conversely, it shows that there are also many cases treated by the general practitioner, to the detriment of the patient, which should be treated only by a skilled neurologist.

In presenting the subject of functional and organic nervous diseases from the standpoint of the general practitioner on duty in this clinic, it may be well to give a brief outline of the course of procedure followed in the study of every case treated. Each patient is given an exhaustive physical examination, and a complete history is taken from every angle. We have found that only by the most painstaking investigation of the details of the history, including careful questioning of other members of the family, are we able to gather some of the most important evidence. It is not unusual for us to spend two hours in the preliminary study. If the case is unusually baffling or presents some important symptoms which need close observation, the patient is admitted to the hospital for study. The average case, however, is brought before the clinic "conference" as soon as the preliminary history has been taken, and the physical examination made. At this conference the other members of the clinic staff are given an opportunity to study the case and express their opinions, or suggest lines of further research. After this, the patient is studied more from a clinical or laboratory standpoint. This includes routinely a Wassermann test, complete blood count, blood chemistry, urinalysis, and such special investigations as may be indicated. When the results of these examinations are collected, the case is reviewed and appropriate treatment instituted, based upon medical indications and personal handling.

One of the cardinal principles in the handling of patients at this clinic is that no one, no matter what his complaint, is ever told that there is nothing the matter with him. This is one of the most important factors in the success of our work, and one that the general practitioner must learn in order to do justice to his patients. We have discovered that the personal handling of the cases by one selected member of the staff is productive of the best results. The patient who becomes accustomed to one physician in the clinic is likely to coöperate by giving information which might be withheld from a stranger. Certain "leads" in the search for accurate diagnosis are often better worked out by one physician than by a number of them.

The majority of the purely functional nervous cases are medical problems. As a general rule, an exhaustive physical and clinical examination is likely to uncover some underlying cause for the disturbance. Physicians who have received their medical training within the past ten years are fully aware of the importance of focal infection as a causative factor in the production of various distressing symptoms. The discovery of one potential source of trouble, such as an infected tooth or diseased tonsils, should not, however, limit the search for other foci of infection. Often much harm is done to a patient by a physician jumping to a sudden conclusion, and hustling the patient off to a surgeon for an operation which, if not successful in relieving the symptoms, may destroy the morale of the patient, and make him less willing to consent to some really necessary operation in the future. The thoroughness with which a practitioner collects all possible evidence in the course of his physical examination, and then presents the results of his findings in intelligible language to his patient, does much to establish the confidence that is so essential to the successful outcome of the case.

Many functional nervous diseases are the direct result of misinterpretation of symptoms on the part of the patient. A pain in the abdomen is likely to be interpreted as beginning carcinoma by the imaginative individual, and in cases of hyperchlorhydria, so frequently seen among neurotics, the worry over the possibility of cancer tends to increase the disturbing symptoms. A gastric analysis combined with a careful physical and clinical examination, followed by a reassuring talk by the physician, is often productive of almost miraculous cure. Even the discovery of chronic appendicitis or cholecystitis will distract the patient's mind from more serious possibilities, and the prompt relief of symptoms may permit operation to be deferred with perfect safety.

There is another type of functional case belonging to the psychoneurotic group in which the most exhaustive physical examination fails to show any evidence of focal infection or other causative factor. This is the type of case which the general practitioner is tempted to dismiss with a statement that there is nothing the matter. We have strenuously avoided this in our clinic,

for we have found that in the vast majority of cases such a statement is absolutely wrong. There is always *something* the matter with every patient, albeit that something may be purely psychic. Such patients are particularly difficult for the busy general practitioner to handle. They may not be altogether satisfied with the negative findings of the family doctor, however careful and painstaking he may be. Even though they may seem to be relieved at the good news, there is often an element of doubt in the patient's mind as to the accuracy of his findings. The problem in such cases is to clinch the confidence of the patient in the reassurance that the skilled neurologist can give. On the basis of the preliminary medical examination, fortified by the patient's confidence that the neurologist's word is final, he is able to go over the problem intelligently and to reach an accurate conclusion which leaves the patient in a more healthy state of mind, and with a greater respect for the opinion of his family doctor whose findings have been corroborated.

It is obvious that it is entirely unnecessary for such cases to be kept under the care of the neurologist. In fact, it is highly essential that they should not be. On the other hand, there is a type of neurotic patient, the psychasthenic, whom the general practitioner is unable to handle because he has neither the time nor the skill. Such patients frequently need an extended analysis and expert mental guidance, which sometimes fails to cure in the hands of the neurologist. The organic cases, for the most part, are better handled by a competent neurologist, or, if handled by the general practitioner, they should be under the general direction of the neurologist. Unfortunately, there is a large group of organic cases which remain under the care of the practitioner far too long. It is extremely important for the physician to realize the necessity of early recognition of the nature of such cases. In this class belong the early cases of insanity, which, if properly handled, may be brought back to normal. The involutional psychoses, the depressions, some types of dementia præcox, and the various group forms of cerebral and cerebrospinal syphilis are often amenable to proper treatment.

We have been impressed with the large number of postencephalitic cases. In most instances there has been a history of high fever and more or less severe illness lasting several days. A careful analysis of the symptoms nearly always reveals evidence of cerebral disturbances. With few exceptions, these cases have been called "grippe" or "influenza" by the attending physicians, whose interest apparently subsided with the fall in temperature and the relief of the acute symptoms. Unfortunately, the sequelæ of encephalitis are probably the most distressing of any that present themselves to our clinic. Little can be done for them, especially those with a well-marked parkinsonian syndrome, and there is always the feeling in the minds of the distressed families that earlier recognition of the disease and more accurate and elaborate treatment would have prevented the ultimate tragedy. Unfortunately, this is too true, and it is therefore highly important that the general practitioner be more on the lookout for cases of encephalitis.

The developmental and behaviorism cases are often treated too long by the family doctor. This is due to several causes: the family is invariably unwilling to admit that their child is anything but normal; the family doctor is often afraid to cause possible offense by telling the family the truth; and lastly, the almost universal hedging statement, "He may grow out of it," is used by both the laity and the medical profession to allay the fears of the distressed family. Often valuable time is wasted in endocrine cases because the physician neglects to institute proper treatment, and no one is so well qualified to treat such cases as the trained neuro-endocrinologist.

Epilepsy is often as well treated by the intelligent general practitioner as by the neurologist. In fact, if the general practitioner be of an inquiring and resourceful mind, he may be able to uncover many most important facts in the course of his study of the case which would likely be missed by the neurologist. No chronic disease warrants more thorough study than epilepsy. Furthermore, it is wrong for the general practitioner to assume that because a patient has *petit mal* attacks, he will not have *grand mal* as well. The experience of many noted observers has been that any loss of consciousness, even for a short time, should be carefully observed for further symptoms of epilepsy. While neurologists are inclined to be pessimistic regarding the prognosis as to ultimate cure, the fact remains that a large number of epileptics are markedly benefited by the elimination of foci of infection, and are often able to make a reasonably good social adjustment. It is not improbable that epilepsy will eventually be classified among the curable diseases. The general practitioner has really the best opportunity to study patients in their own homes, and to observe closely certain causative factors which would readily be missed by neurologists, either in clinics or hospitals.

From a neurologic standpoint the general practitioner has a very important responsibility in the prevention of nervous diseases among his

patients. This is particularly true among children. Any child who fails to do reasonably well in school should be studied carefully from the psychologic standpoint. Furthermore, the general practitioner has a great opportunity and responsibility in the matter of sex education among his younger patients. This is often neglected by the parents, and is perhaps faultily presented in the schools in many instances. The family doctor, if he be of the right type, can do more good than any one else along these lines.

In conclusion, we wish to emphasize the importance of coöperation between the general practitioner and the neurologist in both functional and organic cases. The problems presented are numerous and varied, and only by intelligent and painstaking work on the part of both or all branches of the profession can the best results be obtained.

ABSTRACT OF DISCUSSION

On a Study of the Material in a Neuropsychiatric Clinic

Theodore Diller, M.D. (Pittsburgh, Pa.): The papers in this symposium have brought forcibly to mind the fact that disease may be both functional and organic. All diseases show nervous and mental symptoms. For instance, a man with an abscessed tooth certainly has mental symptoms, as does a man with a fracture, but these symptoms vary enormously in different individuals. One of the things the physician must try to estimate is overstatement or overemphasis of his trouble by the patient.

If we find organic disease in a patient exhibiting mental symptoms, we must not immediately jump to the conclusion that this is the cause. Evidence of syphilis in the laboratory tests does not necessarily indicate that the symptoms from which the patient suffers are due to syphilis.

The men of this clinic who warn against telling a patient that there is "nothing wrong" when the patient thinks there is are to be commended. If a man thinks there is something wrong with him, there certainly is, even though it be wholly mental in character. It goes without saying that it is the function of regular physicians to try to evaluate both mental and physical factors in a balanced way, and it is just this poise which places the true physician above the faddist, the cultist, and the downright faker.

Adam J. Simpson, M.D. (Chester, Pa.): Considerable work has been done in Stockholm, New York, and Philadelphia on the postencephalitic group of children who show very definite behavior problems. In the Pennsylvania Hospital, Philadelphia, Dr. Bond has a class of boys whom he has been treating for four years, with schooling and such occupational therapy as would be interesting to a child, and they show marked improvement. Many such children are shunted from one institution to another because there is no suitable place for them. This emphasizes the necessity of caring for them in a properly equipped State institution. Some of these children are potential criminals, but a great deal of good can be accomplished by reëducating them and bringing them back to normal so far as possible.

Judson Daland, M.D. (Philadelphia, Pa.): Neurology was separated from internal medicine purely for the convenience of study and practice. The importance of etiology in the understanding and treatment of neurologic patients cannot be overemphasized.

Dr. Patton observed that patients requiring surgery are often too rapidly hastened to the operating table. Occasionally, in obscure cases, more than one operation is necessary, and judgment is required in deciding which should be first and when the operation should take place.

Walter S. Brenholtz, M.D. (Williamsport, Pa.): Dr. Weisenburg stated that no patient should be declared insane unless a complete hospital survey has been made. There is a law in this State which requires a certificate signed by two physicians in order to commit a patient. If it is necessary to make a hospital survey before these patients are committed, a great deal of time would be lost in getting a number of them under proper treatment, especially when they cannot possibly be cared for at home.

When the superintendents of general hospitals refuse a patient admission because of a chronic mental condition, declaring that their hospitals are not expected to take care of insane patients, we meet with great difficulty. A concrete example occurred in my own practice recently. A woman had been committed to one of our State institutions about seven years ago and was there for a number of years before she was sent home on furlough. She was getting along fairly well until a few weeks before I saw her, when she was very weak and feeble and her mental condition was growing worse, but not to the extent of violence. In order to improve her physical condition so that she might be readmitted to the State institution, we tried to get her into a general hospital. The hospital authorities informed us that the patient could not be admitted, and when we insisted, the superintendent said that he could not give a definite answer unless we appeared before the executive committee and stated the case. This occurred on Monday, and on Wednesday the woman died. She was at home without the care and treatment she should have had because it was impossible to give it there.

I wish to ask Dr. Weisenburg if he believes it is just to commit such a large number of patients on the certificate of two physicians without an adequate hospital survey?

Dr. Weisenburg (in closing): The State of Pennsylvania, in spite of its great wealth, is woefully behind its neighbor, New York State. Many patients are housed in so-called county hospitals. Occasionally there is an exceptionally good one, such as the one in Pittsburgh, but most of them lack equipment and personnel. It is to be hoped that the $50,000,000 bond issue will be endorsed by every physician in the State.

Of course, certain types of obviously mental patients should be institutionalized at once, but, on the other hand, borderline cases are better handled in general hospitals or in special hospitals rather than in institutions for the insane.

The County Medical Society is the professional and social clearing house of the medical men of the county; the cemetery of envy, hatred, and uncharitableness; the whip that stings the inert to activity and the spur that drives the lazy and self-satisfied. It is a body that can make itself a power of life. It likewise increases the strength of the profession and of its individual members.—*The Bucks County Medical Monthly.*

NEURASTHENIA—A RESUME*

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The term neurasthenia is here used to cover the entire field of neuroses, as it was the first name to be placed upon the neuroses. Later attempts at classification will be considered.

Nervous asthenia, later converted into neurasthenia, was first described as a distinct functional affection by Austin Flint in the first edition of his work on the practice of medicine, published in 1866. The term "nervous asthenia" was suggested to him by Prof. Fordyce Barker. The word "neurasthenia" first appeared in Dungleston's *Medical Dictionary,* in 1833. E. H. Van Deusen of Kalamazoo first used the term for purposes of clinical description. George M. Beard published his work on neurasthenia in 1880. To him is generally ascribed the credit of calling the attention of the profession to this subject. He divides it into two forms, cerebral and spinal. The spinal form, called spinal irritation, had been written about as early as 1828 by Brown of Scotland. The general subject, too, had been touched on by Dr. George Cheyne in 1785 and by Bouchut in 1857. Indeed, I have a little work published in 1710 on hypochondriasis and hysteria, commonly called "hypo" in men and "vapors" in women by A. DeManville. In this work a case is described that might come under the head of neurasthenia. Pepper's *System of Medicine* published in 1886 has a very good article by H. C. Wood on neurasthenia. The *Reference Handbook of the Medical Sciences* published in 1887 has a most excellent article by J. J. Putnam of Boston. In the *Twentieth Century Practice of Medicine* published in 1897, Charles A. Dana has a most interesting article. Oppenheim's *Diseases of the Nervous System,* translated by E. E. Mayer and published in 1900, has a most learned and distinguished article. Charcot's *Clinical Lectures on Nervous Diseases,* published in 1879, does not mention neurasthenia. Landen Carter Gray, in his work published in 1893, gives a good description of the subject, and I think makes the first attempt at classification. This was reflex neurasthenia, lithemic neurasthenia, and simple neurasthenia. Lectures by Erickson on obscure injuries of the nervous system met with as the result of shocks received in railway injuries, published in 1886, had a most important and, we might say, pernicious influence in suits for damages, as the symptoms were neurasthenic. He first called it spinal concussion, later brain concussion. Oppenheim later was the first one to use the term "traumatic neurosis" to label these cases. Erickson's so-called "concussion of the spine" caused the railways of England and America to be mulcted for millions of dollars.

I was graduated in 1882 and I do not remember any didactic or clinical lectures on the subject of neurasthenia. I first read Beard's work in 1884. Though it was intensely interesting to me, I must confess to being puzzled and confused. While taking a postgraduate course in London in 1890, I heard the great English neurologists, Gowers, Hughlings Jackson, Ferrier, Bastian, and others all speak on neurasthenia, calling it the American disease. They were inclined to be rather sarcastic and to be pessimistic as to the importance of this affection. I have Gowers's work on nervous diseases published in 1890. He devotes only a short page to this subject. Interest in the subject spread like wild fire through the profession. The Germans, with characteristic ardor, took it up. From 1885 to 1920 the amount of literature on this one subject probably exceeded that on any other subject in medicine. This literary debauch gradually subsided. Pessimism as to the truth of much that had been written commenced to appear. The abuse that arose from the misconception of this disturbance and search for possible causes has been tremendous. Modern surgery was evolving about the same time. Many abdominal complaints must have an organic cause, was argued. We must explore in all obscure cases. Since every neurasthenic has obscure abdominal disorder, many of them, thus, became subjects for the surgeon.

Then, too, suddenly arose the dictum that most diseases of the gall bladder, ducts, and appendix, and many disturbances of the intestines and stomach have an infectious origin, and the infection usually arises from above, the tonsils and teeth being the chief offending agents. Search for the source of infection in all cases became universal, and naturally the neurasthenic was included because of the fact that he so often exhibits gastric and intestinal disorders. The abdominal surgeon became enthusiastic over this also. I have seen quite a number of cases in which exploratory abdominal operations were performed, and many showed no real pathologic changes in the gall bladder, the ducts, the appendix, or the ovaries and tubes. Next came ptosis of the various abdominal viscera, and later kinks. Nowadays no reliable and well-posted surgeon will open the abdomen on a mere suspicion, and most of them now recognize neurasthenia, and know how hazardous it may be to operate in such a case when

* Read before the General Meeting of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 5, 1927.

there is no well-defined indication, for very often the nervous features are rendered more intense.

Systematized sports of various sorts gained ground rapidly. There was a tendency in the profession and the community to make light of the neurasthenic. The female wakened up to her greater liberty and to her greater rights in the world, and her invasion of industry grew by leaps and bounds. It was no longer fashionable to exhibit nervous symptoms. There are, as you will note, many reasons for the apparent disappearance of the neurasthenic. Neurasthenia as a defense reaction was recognized.

The general practitioner lost his fear of these cases. He, himself, investigated the condition of teeth and tonsils. We might go further and state that the many means of diversion such as the moving pictures, the automobile, the radio, doubtless have had an influence. It is hard to measure the many influences on the disturbance. While the great war has had a far-reaching influence for good on many people in civil life potentially inclined towards developing the neuroses, it had a very disastrous effect upon many who participated in it. This is true of all the nations involved in the great struggle. Even the English found that the care and treatment of the various types of neurosis that developed became a great problem, as well as a great burden.

Early in the eighties, Weir Mitchell published his work on *Fat and Blood,* and urged forced feeding in cases that exhibited neurasthenic and hysterical features. Rest and seclusion were also part of the treatment. This matter was taken up by many neurologists, and real abuse of this form of treatment followed. In Weir Mitchell's book on *Fat and Blood*, there are passages which show that the author was aware of the fact that this form of treatment was applicable only to certain types, and these were more of the hysterical than of the neurasthenic forms. He states that there are types of neurasthenics in whom exercise is indicated rather than rest. Weir Mitchell I knew personally. His was a character that was dominating, and I think he himself realized that it was, after all, more management and dominating control that brought about good results rather than overfeeding and complete rest. Many of his followers did not have his dominant character, and their attempts to carry out his plan of treatment often resulted in harm rather than good. We of today, who now look upon the individual who exhibits neurasthenic features in a cool, semiscientific way, can hardly realize the anxiety of the neurologist of this, what we might call evolving period. His very evident overanxiety and vacillating treatment had a bad effect upon these patients. Sanatoria proved to be double-edged swords in many cases, the treatment in these institutions tending more towards fixation of abnormal ideas then towards relief of these ideas.

Let us now go back and quote Austin Flint's views upon the subject: "The term nervous asthenia may be used to denote a morbid condition common in this country, especially in the larger cities. As the name signifies, debility, prostration, or exhaustion, affecting especially the nervous system, constitutes the affection. It occurs without anemia or any notable disorder of the vital functions. It proceeds from undue functional activity of the nervous system, connected with the exercise of the intellectual and emotional faculties.

"The condition of nervous asthenia is, in itself, not a small evil, causing much discomfort and unhappiness to the patient, and rendering him uncomfortable to others by inducing depression, irritability, or moroseness. That this condition favors the development of diseases to which there may be a predisposition, or coöperates with the various causes of diseases, is probable. It is apt to engender a desire for stimulants, and thus lead to intemperance. It may eventuate in confirmed melancholia, hypochondriasis, or other forms of mental derangement.

"An essential part of the treatment relates to the causation. Frequently it is desirable to endeavor to procure, temporarily, complete relief from exertion and care. It is, however, extremely injudicious to advise permanent relinquishment of active occupation. After rest and recreation for a season sufficient for recuperation of the nervous system, a return to accustomed pursuits is advisable, with injunctions to observe proper moderation, and to comply with the laws of health as regards a fair apportionment of time to recreation, and a proportionate exercise of all the faculties of the mind. It is, of course, desirable that causes of mental uneasiness and anxiety should be removed, but this part of the treatment often is not within the range of medical control. Habits tending to impair bodily vigor are to be corrected, such as dietetic imprudences, late hours, sexual errors or vices, the immoderate use of tobacco, etc. Tonic remedies, varied from time to time, and long continued, are serviceable both morally and medicinally.

"At the present time (1880) there is, perhaps, a tendency to exaggerate the pathological relations of the neurasthenic morbid condition. No anatomical system in the body tolerates func-

tional activity better than the nervous system, provided the organism is sound and the requirements of health in other respects are observed. Patients are sometimes disposed to attribute to overexertion of the mental faculties what is really due to other violations of the laws of health. The opinion that the symptoms denote excessive brainwork is apt to be received with satisfaction. In some cases, considering the small amount of intellectual work accomplished and the limited capabilities of the brain, this opinion seems ludicrous."

If the profession had kept this sensible and relatively simple viewpoint of neurasthenia, how much better for all it might have been. After all, neurasthenia is, as the name implies, "nerve weakness." Heredity is the underlying factor, whatever may bring out the symptoms. How often do we find anatomic stigmata of deviation from a normal. The mental features may be looked up as evidences of psychologic stigmata of deviation from a normal. To show how disastrous upon progeny the influences of the neurasthenic may be, the histories are given of two families in which the parents were neurasthenic.

First Family

First generation: Male, neurasthenic, died at 82. Female, mildly neurasthenic, died at 80.

Second generation: First male, suicide. Second male, mental failure at 60. First female, melancholia, with suicide. Second female, tuberculosis. Third female, mental failure at 50. Fourth female, delicate, but lived to be 78.

Third generation: Two children of second male fairly healthy. Two children of second female both tuberculous.

Second Family

First generation: Male, neurasthenic. Female, neurasthenic and drug habitué.

Second generation: One female, neurasthenic. First male, tuberculosis, death. Second male, rather healthy but peculiar. Third male, psychoneurotic. Fourth male, married a hysteric.

Third generation: Three children of second male: First, male, neurasthenic and drug habitué. Second, female, distinct major psychosis in middle life. Third, male, delicate, early death.

Three children of third male: First, male, normal. Second, male, normal. Third, male, recurrent melancholia with suicide.

Five children of fourth male: First psychosis of pregnancy. Second, fairly healthy. Third, male, psychosis in middle life. Fourth, psychosis in middle life. Fifth, male, drug habitué.

If we knew the family history of parents and grandparents, we should not be so surprised and puzzled by the appearance of certain characteristics in the progeny. The law that similar characteristics in parents are apt to be transmitted to the children in an inverse rather than a direct ratio is immutable and far-reaching.

It would seem best to me to classify the neuroses under a few headings, thus: (1) psychoneuroses, (a) anxiety types, (b) exhaustion or neurasthenic types; (2) psychasthenia; (3) traumatic neurosis; (4) hypochondriasis; (5) hysteria.

Wechsler, in a work on clinical neurology just published, makes the following statement regarding classification of the neuroses: "The weakness of every classification lies in the fact that it conveys the notion of circumscribed clinical entities. This is contrary to clinical experience. In the present state of knowledge it is impossible to make rigid classification." Wechsler follows Freud in his conceptions. Freud divides the neuroses into actual neuroses and psychoneuroses. By the former he means those neuroses in which, aside from the immediate or precipitating psychologic factor, there is actual, even if temporary, physical disturbance within the organism. In this group he includes anxiety neuroses, neurasthenia, and hypochondriasis. Traumatic neuroses may be added.

By psychoneuroses he understands those neuroses which illustrate the various stages of regression to infantile points of fixation. The whole group is known as regressive or fixation neuroses. Under this head are classed the transference neuroses, which include: (1) conversion hysteria, (2) anxiety hysteria, (3) compulsion neuroses.

The narcissistic neuroses represent regressions to the very earliest infantile days when auto-erotism was supreme, and really belong to the psychoses. Here are grouped: (1) paraphrenia, (2) schizophrenia, (3) manic-depressive psychoses, (4) paranoia. To the regressive neuroses may be added neurotic character, perversions, and possibly constitutional inferiority.

Freud restricts the concept of neurasthenia to cases which are characterized by easy mental and physical fatiguability, mild gastro-intestinal disturbance, poverty of power of concentration, pressure on top of the head and in the back, impotence, all of which are directly the result of excessive masturbation. But, he says, neurasthenia remains pure only so long as it does not engender conflict. When it does, the result may be and frequently is anxiety or conversion hysteria. All of this is interesting, even if we cannot wholly follow him. Most neurologists are rather skeptical on the importance of the sex feature as dominating.

Personally, I feel that Freud's conception helps to clarify my ideas. I should be willing to accept his viewpoint if he left out masturbation as the main factor in causation. I cannot quite get this. As masturbation is so common

in both of the sexes, I will agree that it may be one factor in susceptible individuals. It seems to me that, given predisposition to neuroses, almost any factor may bring out symptoms.

I cannot quite agree with the opinion that neurotic symptoms are always a defense reaction, that they arise always from a sense of inferiority. The World War showed the great influence of stress and strain, and many of the cases that occurred then were no doubt defense reaction. Many of them, however, were improperly classed, and later observation tended to show that the majority of them belonged rather to real inferiors, and many others approximated dementia præcox. I believe that the defense reaction is not uncommonly seen in the traumatic neuroses. I am, however, convinced that cases of traumatic neurosis should never be tried in the courts—that physicians alone are able to size up these cases properly, and only those physicians who are able to keep an open mind.

After all, with these neurotics it is the life history that tells. They are all subject to remissions and exacerbations. Social recoveries and recoveries for the time being do not mean complete physical and permanent recoveries. Many exacerbations run a course with or without treatment, and many patients have remissions in spite of injudicious treatment. Some are hurt by injudicious treatment. That the application of psycho-analysis is better than the suggestion and persuasion treatment is to be questioned. That most cases are helped by judicious medical treatment I fully believe. Some forms may be helped by a judicious and high type of psycho-analyst who is an educated physician. The lay psycho-analyst and psychologist with no medical training and no medical experience, to my mind, can prove to be only a menace in the handling of such patients. The neurologist still has a place in the care and treatment of the neuroses. His judgment, formed by long experience, should be of service in the care and treatment of these types.

ABSTRACT OF DISCUSSION

Charles H. Henninger, M.D. (Pittsburgh, Pa.): One of the striking things noticeable in the great mass of literature on neurasthenia is the different views regarding the causative factor—inheritance versus environment. In many cases it is extremely difficult to determine which is predominant, but in the vast majority, the history indicates that the seed has fallen on fertile soil—that people are predisposed to the disease. Many factors may precipitate an attack. This does not mean that the so-called normal individual may not develop neurasthenia or the psychic neuroses. He may be overpowered by the force of the exciting factor; but such individuals recover more readily than those with a predisposition. Certain individuals are subject to periodic attacks of neurasthenia, most frequently occurring in the spring, probably due to the mode of life during the winter plus some hereditary factor.

One of the main reasons for the difference of opinion in regard to this disease is that many such cases are borderline in their manifestations, and the difficulty of classifying them definitely has caused a great deal of discussion. This, however, is not important in the management of these cases.

PRECANCEROUS DERMATOSES*†

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Cancer mortality has been considerably reduced by educational propaganda aimed at both the lay and medical publics. In addition to periodic medical examinations, persons have been urged to consult their family medical advisers, or clinics, at the first signs of illness. Attempts have been made, in various ways, to familiarize students and practitioners of medicine with the very early indications of cancer, and with modern methods of treatment. Until more satisfactory treatment is discovered, the best way further to reduce cancer mortality is to recognize and completely destroy the disease before metastasis occurs. Because metastasis may occur very early, it is desirable that diagnosis be made and adequate treatment given as soon as possible.

Most cutaneous cancers develop on an antecedent lesion or defect. These potentially dangerous conditions are well known to dermatologists, and will be discussed later. The point to be emphasized here is that recognition and proper treatment of precancerous lesions will substantially reduce the incidence of this dreaded disease. Obviously, it is difficult and often impossible to detect such lesions of the viscera, but those of the skin and orificial mucosa can be easily recognized and most of them can be successfully treated. It should, therefore, be the duty of every physician to become diagnostically and therapeutically acquainted with the precancerous dermatoses, and to encourage periodic physical examinations, at which time the entire body surface and the orifices should be carefully inspected.

The conditions of the skin and contiguous mucous membranes in which cancer is prone to develop are numerous. The potentially dangerous members of this group that fall within the category of dermatology, commonly termed precancerous dermatoses, will now be enumerated and briefly discussed.

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LEUKOPLAKIA

Description. It is the consensus of opinion that leukoplakia of the mouth may occur in both syphilitic and nonsyphilitic persons. Its etiology has not been definitely determined. Presumably it can be caused by syphilis and by local irritation. As a rule, antisyphilitic treatment has little if any effect on leukoplakia. When occurring in syphilitic persons, it is often associated with interstitial glossitis and smooth atrophy, a triad that is probably more dangerous than uncomplicated leukoplakia.

Leukoplakia may occur in one or several very small patches on the tongue, lips, or mucous surfaces of the cheeks, or most of the buccal cavity may be involved. Small patches on the gums, under the tongue, on the roof of the mouth, behind the molars, etc., may escape careless examination.

Fig. 1. Leukoplakia of seven years' duration in a syphilitic. Warty excrescence of six months' duration on right edge of tongue. Smooth atrophy at left edge. Slight interstitial glossitis.

The patches are white, usually marginated, irregular in size and shape, slightly thickened, and a trifle rough. The patient is often conscious of the affection, although subjective symptoms are not conspicuous as a rule. The affected area may develop fissures, erosions, or it may become verrucous or vegetating. Such lesions are especially dangerous, but it should be borne in mind that malignant epithelioma may develop suddenly and rapidly in an apparently inactive patch of leukoplakia.

The affection must be differentiated from lichen planus, lupus erythematosus, aphthous ulcers, and Vincent's angina. The mouth lesions of lichen planus are punctate, striated, papular, and usually accompanied by skin lesions. Lupus erythematosus rarely involves only the mucosa. The lesions are more inflammatory—congestion, edema, and erosions. The other three diseases may be differentiated by acute symptoms, concomitants, and bacteriologic examinations.

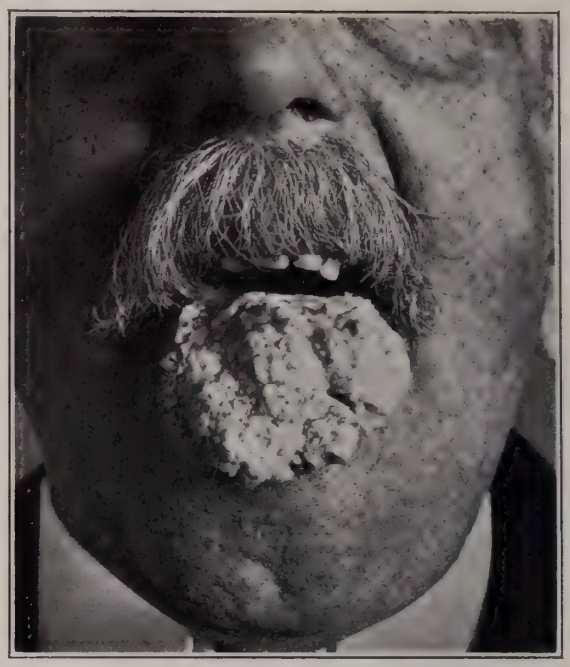

Fig. 2. Leukoplakia of verrucous type with fissures and excoriations.

Treatment. It is customary to destroy small patches of leukoplakia with electrodesiccation or with the electric cautery. Many such lesions may be permanently cured with a single, intense ap-

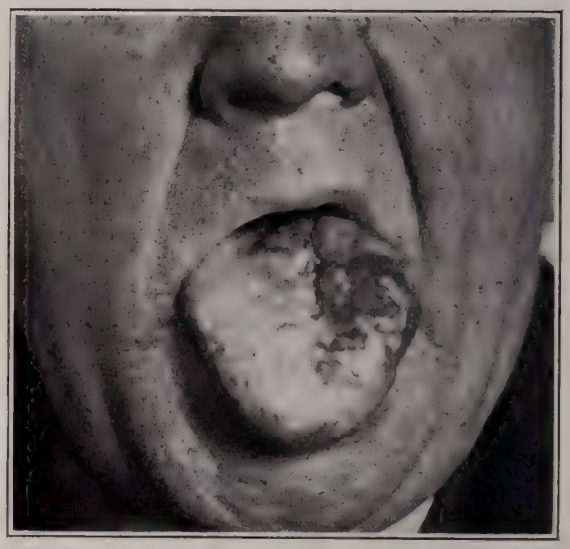

Fig. 3. Syphilitic interstitial glossitis, smooth atrophy, leukoplakia, and squamous-cell epithelioma.

plication of the beta rays of radium. If, however, the lesion is stubborn, it is preferable to resort to the previously mentioned treatment rather than give repeated applications of radium. Large quiescent areas should be treated palliatively. Dental hygiene must be perfect. Smoking is prohibited. Active areas should be destroyed. Treatment that is incapable of completely destroying the lesion should be avoided. If the patient has syphilis, modern antisyphilitic treatment is indicated. The mouths of patients with leukoplakia should be inspected every few months.

Miscellaneous Mouth Lesions

Chronic gingivitis, pyorrhea alveolaris, apical abscess, sinuses, fistulas, erosions, ulcers, decayed teeth, etc., favor the development of cancer.

The dental profession deserves a great deal of credit, not only for superb mechanical ability, but because of the recognition that perfect oral hygiene is an exceedingly important health factor. The modern dentist urges his patients to have the teeth cleaned by a prophylactic dental nurse at least twice yearly, at which time the dentist inspects the entire mouth. Undergraduate and postgraduate instruction in diseases of the oral mucosa is given in many dental schools and dental societies. This knowledge, together with periodic dental examinations, should materially lessen cancer incidence. The dentist has the opportunity to detect many of the conditions that lead to cancer. Some of these must be treated by the dentist; others should be called to the attention of the family medical adviser.

Kraurosis Vulvæ

In general, what has been stated relative to leukoplakia pertains to kraurosis vulvæ. As a rule, it is well to let this disease alone and keep the patient under observation. Areas of visible activity should be radically destroyed. Excellent local hygiene is indicated. Itching may be relieved with nonirritating topical antipruritics such as lotions and ointments containing small quantities of menthol, methyl salicylate, butysin, anesthesin, phenol, etc. Scratching and rubbing are interdicted. X-rays may be used as an antipruritic if necessary, but such treatment should be limited to one or two short courses of fractional doses.

Seborrheic and Senile Warts

Description. These lesions, which have a predilection for the face, hands, back, and chest, are of various clinical types. They often begin as split-pea to dime-sized, brown or yellowish-brown macules—"senile freckles." After months

Fig. 4. Seborrheic keratoses of nevoid type.

or years the horny layer becomes thickened. The resulting scale or crust may be dry and firmly adherent, or comparatively soft, greasy, and easily removed. The color may be gray, yellowish-brown, or brownish-black. Exfoliation may be spontaneous; if so, the keratosis almost invariably returns. Keratoses of these types develop very frequently, perhaps most frequently, without preceding pigmentation. Also, most "senile freckles" do not become keratotic. The first visible evidence of a keratosis may be a pinhead-sized, flat papule, a little darker than the normal skin. This type is most common on the backs of the hands.

After keratoses are well developed they can be divided, as a rule, into three general groups—keratoid, nevoid, and verrucose. The lesions thus far described may be regarded as of the keratoid type, the chief clinical characteristics of which

Fig. 5. Seborrheic keratosis and cutaneous horn.

follow: They are pinhead, split-pea, and dime in size. At first there is very little thickness or elevation; later, they are likely to become distinctly elevated. The horny layer may be dry, hard, and adherent, or soft and plastic. Many gradations exist between these two extremes. The color varies from light gray to very dark brown.

Lesions of the nevoid type are seen most frequetly on the back and chest. They range in size from a split pea to a fifty-cent piece; they are soft, considerably elevated, yellow or brown in color, and there is very little hyperplasia of the horny layer.

The verrucose type is characterized by elevation and a thin, yellow scale or crust, which, when removed, reveals a warty surface. At times a lesion is distinctly verrucous before the horny layer is removed. Such lesions may resemble common warts—verruca vulgaris.

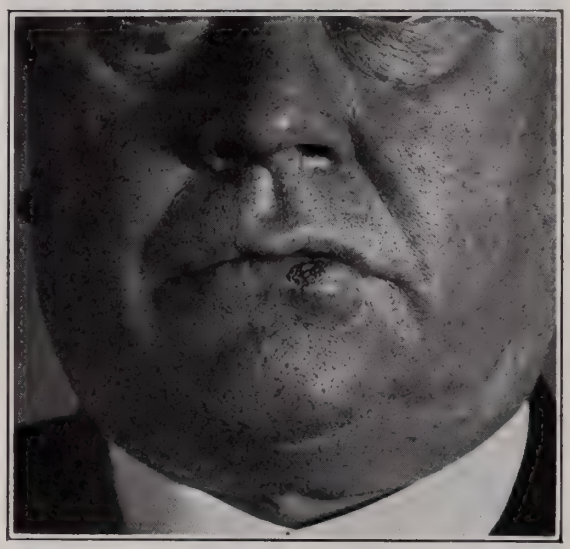

Fig. 6. Keratosis and beginning squamous-cell epithelioma of mucous membrane of lower lip.

Cutaneous horns may be grouped among the senile keratoses. They are encountered most frequently on the face, and vary in size from a tiny lesion, suggestive of a filiform wart, to lesions that project an inch or more from the surface. Epithelioma develops at the base of the lesion.

Chondrodermatitis nodularis chronica helicis (a painful nodular growth of the ear) bears a resemblance to keratosis of the rim of the ear and, for convenience, may be included in this group.

As a rule, the evolution of a keratosis is very slow. At least many months and often many years are required for maximum development. Keratoses seldom undergo spontaneous involution. Occasionally they are encountered in young

Fig. 7. Arsenical keratoses of palm with epithelioma of thumb.

adults; they are common in middle life, and most common in elderly persons.

The majority of keratoses of the skin never undergo malignant change. Of those that do become epithelioma, the majority are of the basal-cell type. Many of the squamous-cell epitheliomas that develop on a keratosis are of slow growth; some, however, are of rapid evolution. Keratoses of the labial mucosa are practically always of the squamous-cell variety. Repeated irritation and inadequate treatment of a keratosis appear to encourage malignant change.

Treatment. Whether or not a given seborrheic or senile keratosis should be treated depends on conditions. If the patient is old, especially if the lesions are numerous, and there is no objection to the appearance, treatment is unnecessary provided there is no evidence of epithelioma and the patient can be inspected at least once yearly. The type and location of the lesion must be considered. The dry type is perhaps more dangerous than the waxy type. Kera-

Fig. 8. Chronic radiodermatitis of palm showing atrophy, telangiectasia, and keratoses (so-called x-ray skin). The center of palm was vegetating, with probably beginning epithelioma. This tissue was dissected out and replaced with skin grafts.

toses of the lips are especially dangerous, and should be destroyed. In general, it is a good plan to destroy every well-developed keratosis.

"Senile freckles" are mostly of cosmetic importance, and as it is difficult, often impossible, to remove them without leaving depigmentation, it is customary to ignore them unless they are keratotic.

Very superficial keratoses of the skin can be cured with a concentrated solution of trichloracetic acid after removal of the hyperplastic horny layer. If the lesion is thick and elevated, it is customary to curet thoroughly before applying the acid. Refrigeration (solid carbon dioxid) is a satisfactory method of treatment for superficial lesions. The electric cautery and electro-

Fig. 9. Xeroderma pigmentosum showing atrophy, pigmentation, keratoses, and epithelioma.

desiccation are excellent modalities. X-rays and radium, especially the beta rays, are efficacious in many cases. Such treatment is especially valuable when it is desirable to avoid scarring and depigmentation. If there is any possibility of epithelioma as manifested by infiltration, nodulation, and ulceration, the lesion should be radically destroyed. This may be accomplished by excision, surgical diathermy, x-rays, or radium. When dealing with keratoses of the labial mucosa, even when very small and superficial, radical destruction is essential. Patients who have a tendency to develop labial keratoses should avoid smoking, biting and wetting the lips, and strong sunlight. In addition, it is a

Fig. 10. Showing "senile freckles," atrophy, keratoses, and cancer. A condition known as sailor's skin, farmer's skin, and senile skin.

good plan to counteract excessive dryness with frequent applications of grease.

Miscellaneous Keratoses and Warts

Arsenical Keratosis. This drug causes keratoderma with predilection for palms and soles. Occasionally the affection is more or less generalized. It is often accompanied by widespread, punctate pigmentation. The characteristic picture is excessive dryness of palms and soles with almost innumerable punctate, deep-seated keratoses. Occasionally, very large, thick lesions

Fig. 11. Melanoma that developed on a blue-black mole.

are encountered. The arsenical keratosis is the forerunner of both basal-cell and squamous-cell epithelioma. The affection is treated with copious applications of grease. Active lesions are destroyed by methods already mentioned. The further administration of arsenic is avoided. In recent years it has been customary to administer sodium thiosulphate.

Industrial Keratoderma. Workers in crude petroleum, paraffin, tar, and other industrial products, occasionally develop follicular keratoderma, particularly of the hands and forearms. Many cases of cancer developing on dermatoses of this type have been recorded. Years ago chimney sweeps exhibited cancer of the scrotum and crural region secondary to dermatitis caused by the irritating effect of carbon that was allowed to collect and remain on the skin. Even gardeners who use soot in their work have been known to develop cancer. Persons who handle these products should be protected by proper hygiene and, if necessary, by change of occupation.

Industrial cancer is found in numerous occupations—among those who handle arsenical products, radium, etc. Many of these causes are discussed in different sections of this paper.

Verruca, Clavus, etc. Corns, calluses, and the various types of benign warts of the skin are considered to be free of danger if not subjected to repeated traumatism or constant irritation. The common wart and ordinary callus appear to be entirely benign, but corns and papillomas of the bearded region and scalp have been known to develop malignant epithelioma. Any wart that is likely to be repeatedly irritated should be destroyed with refrigeration, electrodesiccation, or other method. Papillomas of the mucous membranes are more dangerous than are those of the skin.

There is at least one recorded instance of cancer developing in a case of keratosis follicularis (Darier's disease).

Radiodermatitis; Xeroderma Pigmentosum; Farmer's Skin

Radiodermatitis. This term includes cutaneous injuries effected by both x-rays and radium. From the standpoint of cancer, the immediate result of acute reactions may be disregarded. Chronic radiodermatitis consists of any one or a combination of the following features: telangiectasia, atrophy, sclerosis, keratosis, ulceration, pigmentation, and depigmentation. It may develop insidiously or follow an acute reaction. This so-called x-ray or radium skin is dangerous. Chronic ulcers and keratoses frequently

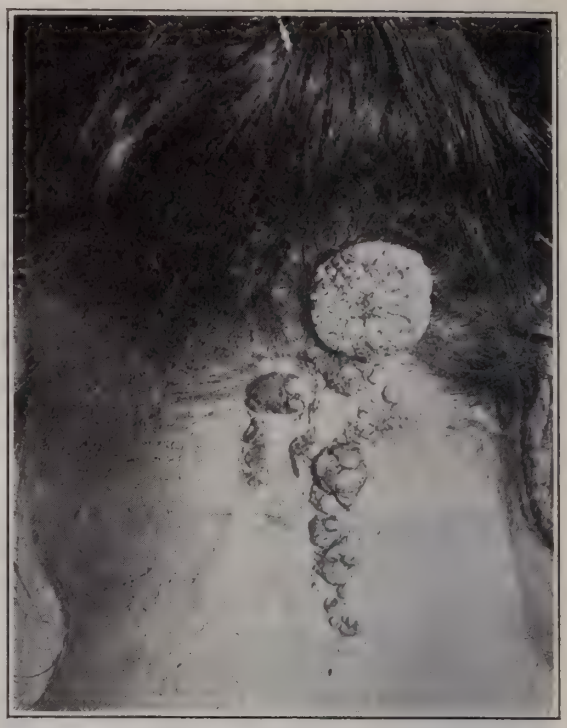

Fig. 12. Sarcoma in a case of nevus cerebelliformis that was treated with CO_2 snow. Refrigeration was applied to only one part of the nevus, and the sarcoma sprang from this area.

change to malignant cancer. It is often possible to destroy the keratoses with beta rays. Electrodesiccation is an excellent modality for the purpose. A large number of methods have been advocated for the management of chronic ulcers —infra-red radiation, ultraviolet radiation, dyes such as gentian violet, serum, electrodesiccation, chemicals, etc. When it can be accomplished, the best procedure is to excise the affected area, or remove it by dissection followed by skin grafting or a plastic flap. Any other method leaves tissue that is a menace and that must be kept under observation.

Xeroderma Pigmentosum. This rather rare affection is thought to be due to congenital lack of resistance to sunlight. It begins early in life, there is a predilection for the exposed parts, and it is incurable. The symptoms are roughly those of chronic radiodermatitis. Pigmentation and atrophy are first noted. This is followed by keratoses and by epithelioma, usually of the basal-cell type.

The most that can be done for these unfortunate children is to delay the inevitable result. The patient must be protected from even indirect sunlight. Keratoses and epitheliomas should be radically destroyed as soon as detected.

Farmer's Skin and Sailor's Skin. The manifestations of this condition are somewhat similar to xeroderma pigmentosum and chronic radioder-

matitis. It occurs on the exposed parts of middle-aged and elderly persons who have been exposed to the sun for many years, especially in an arid climate, and who have a low actinic toleration. The skin becomes wrinkled, dry, pigmented, and perhaps telangiectatic. Keratoses develop, and cancer, usually of the basal-cell variety, is common. Treatment consists of protection against sunlight, unguents at night, and destruction of keratoses.

Nevi

Of the many forms of birthmarks, the most dangerous is the flat, blue-black mole. Many of the melanomas have their origin in lesions of this type. While malignant degeneration may be spontaneous, it is much more likely to follow traumatism, chronic irritation, or application of caustics. If such a lesion is inactive and in a location where it will not be irritated, it may be ignored. But if there is the slightest sign of activity, such as increase in size or thickness, ulceration, crusting, etc. (Hutchinson's malignant lentigo), or if there is possibility of repeated injury, the lesion should be radically destroyed. Malignant lentigo should be removed by a wide, deep excision, surgical diathermy, or intensive radium treatment. Selection of treatment for individual cases is necessary. The point to be emphasized is that if treatment is attempted it must be radical.

The very common mole—pinhead to split-pea-sized, elevated, smooth, more or less pigmented, with or without hairs—is not considered dangerous if not subject to repeated irritation. Large, brown nevi, flat or elevated, with or without hair, in the absence of repeated traumatism, are not very dangerous lesions. Cerebelliform and other soft nevi are dangerous, as a rule, only when irritated. The same statement may be repeated for verrucous nevi. Cancer rarely develops on vascular nevi and lymphangiomas.

Fig. 13. Sarcoma in a scar following operation for osteitis.

Fig. 14. Squamous-cell epithelioma in the scar left by lupus vulgaris. The patient had received x-ray treatment. (Dr. Fred Wise's patient.)

Nevi are exceedingly common. Almost every person has at least one mole of some type. It is by no means necessary or advisable to destroy all moles, but their inspection should be a part of periodic health examinations. Whether or not a nevus should be treated depends upon type, location, condition, and the judgment of the physician. In selecting treatment for a given lesion, it is well to choose a method that is universally recognized as safe and proper. Many deaths have been caused by the incomplete destruction or the irritation of dangerous types of nevi with acids and other inadequate methods.

Cicatrices

Scars are a frequent source of both carcinoma and sarcoma. Large scars resulting from third-degree burns are the most dangerous. Scars subsequent to severe injuries, operations, and destructive diseases are also a menace. Small superficial scars, cicatrices following primary union, and keloids practically never give rise to cancer. Cancer in scar tissue usually begins as an ulcer, a warty nodule, or a vegetating tumor.

Lupus. Squamous-cell epithelioma not infrequently develops in scar or sclerotic tissue left

by both lupus vulgaris and lupus erythematosus, irrespective of previous treatment. The epithelioma may begin as an ulcer or as a nodule.

Syphilis. Cancer in true gumma is rare. It occasionally develops in scars resulting from destructive syphilitic lesions. It is common, of course, in syphilitic leukoplakia and also in interstitial glossitis, which is usually associated with leukoplakia and smooth atrophy.

Because of the dense fibrous tissue, cancer is usually of comparatively slow growth when it develops in a cicatrix. Treatment, however, should be instituted early, and it should be radical, because the lesion becomes rapidly invasive as soon as normal tissue is reached. Metastasis, of course, may occur at any time. Cancer occurring in scars, especially in scars from burns, used to be called Marjolin's ulcer.

Paget's Disease

There is a difference of opinion as to whether Paget's disease is cancer or precancer. The weight of evidence, however, points to cancer from the very beginning. In other words, Paget's disease of the breast is either secondary to or simultaneous with mammary carcinoma, and requires amputation of the breast and removal of the neighboring lymphatic glands. The disease must be differentiated from eczema of the nipple, which at times is difficult, especially in middle-aged women. Extramammary Paget's disease is said to accompany cancer of some adjacent organ. In some instances satisfactory results have been obtained with x-rays and radium.

Chronic Ulcers and Sinuses

Chronic leg ulcers, varicose ulcers, bed sores,

Fig. 15. Paget's disease.

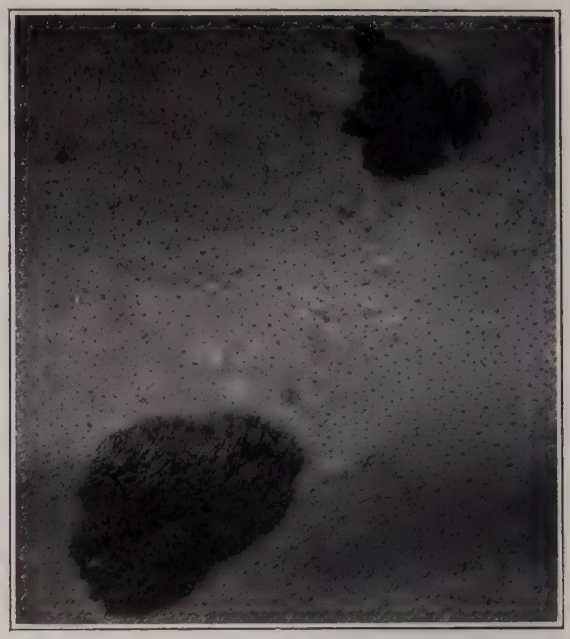

Fig. 16. Bowen's precancerous dermatosis, or superficial epitheliomatosis. Photograph shows multiple lesions of various sizes and stages of evolution.

fissures, fistulas, and sinuses may become cancerous, but fortunately this seldom occurs. Lesions of this type, when occurring in the orifices, are more dangerous than those of the skin.

Bowen's Precancerous Dermatosis

This affection is similar to or identical with the fairly common, very superficial, flat-type, basal-cell epithelioma. The lesion begins as a dull-red, scaly patch which spreads by peripheral extension. It later becomes edematous, exudative, crusted, nodular, and ulcerative. Not infrequently the lesions are numerous. It must be differentiated from extramammary Paget's disease. The lesions should be excised or destroyed with the cautery, electrodesiccation, x-rays, or radium.

Miscellaneous Conditions

Cancer is reported to have been caused by inflammatory dermatoses such as eczema, psoriasis, and lichen planus, but before such reports can be accepted, the possibility of radiodermatitis, erroneous interpretations, and coincidence must be excluded.

Wens, and the various forms of fibromas, especially when irritated, occasionally result in cancer. Endothelioma, syringoma, benign cystic epithelioma, and paraffinoma rarely cause cancer. Chronic friction from orthopedic apparatus, etc., may cause lesions that are dangerous. Acanthosis nigricans in adults indicates cancer of the viscera.

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Symposium on Preventive Pediatrics *

PREVENTIVE PEDIATRICS FROM AN INFANT-FEEDING STANDPOINT

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"There never was a time when there were so many children in the world, yet never in the history of mankind were there relatively so few in proportion to the population." This fact alone should induce us to provide for the future infant and mother. The infant's physical and mental make-up depends upon who "mothers" it. The eugenic question enters into this problem before a child is conceived. Compulsory health examination of the father and mother is not far distant, for the preservation of the state and for urgent economic reasons.

Every expectant mother gives more thought to whether her baby will be strong, healthy, and handsome than to what is best for her health. The pediatrician is more often consulted by the expectant mother on how to secure this result than the obstetrician. Preventive pediatrics is interested in a strict supervision of the diet, habits, hygiene, and physical problems of the pregnant woman, because of "1,200 conceptions, 200 are lost before pregnancy is ended and labor completed; and of the 1,000 infants that come into the world alive, 40 to 45 die the first month. Statistics further show that the mortality of the first month is more than 41 per cent of the mortality of the first year and largely from causes related to prenatal maternal care."

Preventive medicine demands that the pediatrician be admitted to the nursery. It happens more frequently than in the past that obstetricians and pediatricians meet there—the former more interested in the mother, and the latter in the infant's future life and care. The responsibility for such care rests with the nurse. This person is usually the mother. If some other serves as nurse, a thorough physical examination for transmissible disease is a necessity. The infant's immediate chance to live and stay well depends on the faithfulness and intelligence of its nurse. Efficiency is assured by providing a chart to be filled in daily. Such a plan creates good habits in sleeping, feeding, bowel movements, urination, and water administration. It will remind the mother of her shortcomings, will assure the baby its rights, and will give the physician a check-up on all conditions relating to the normal development of the baby. It shows the number of airings and sunbaths given daily, provides for daily weighing, and notes whether the infant is happy. Wakefulness and restlessness in an infant, whether newborn or older, are not normal symptoms. A nursery should be selected which provides for sun, air, ventilation, right temperature, means for heating, absolute asepsis, and isolation. By strict, constant, and efficient supervision of the mother the infant will escape infections the first year of life and frequently the second year also.

We feed premature and full-term babies every four hours. It has never been fully clear to us why a weak or premature baby should be fed every hour, or every two to three hours, nor why an infant past a year of age should have food five or six times a day between 6 a.m. and 6 p.m.

Within a few hours after birth the newborn baby should have water by mouth, if possible,

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or by the rectum every four hours. A formula for artificial food should be given within four to eight hours after each breast feeding. Infants fed in this way lose very little initial weight, and gain rapidly. Inanition fever is practically reduced to zero. If a full-term infant has not regained its birth weight and more at the end of two weeks, it has not been getting the right kind of food or the proper quality or enough water. Loss of weight must be checked from a pediatric standpoint, as it seriously handicaps a strong infant. If the symptoms and signs of inanition are not recognized and prevented, disaster will result and death will follow or there will be a slim chance for life in cases of weak, injured, or premature infants.

The doctrine is promulgated by every recognized authority that breast milk is the natural food for an infant. But it is not the ideal food for the infant if lacking in any of the elements necessary for the child's growth. If the mother is not willing to diet, to be regular in her sleeping, in her exercise, in taking sun baths, etc., I do not hesitate to start artificial feeding and use cow's milk. I am sure of the regularity of the "foster mother's" habits: she has no jazz, no bridge parties, no radio programs, no cigarettes or "hooch." Let us not forget that the human body has been abundantly blessed with a resistance to abuse. The infant has been endowed with it in a goodly measure, if it is only nurtured properly.

The physician who has familiarized himself with lactic-acid milk, butter-flour mixture, and thick-cereal feeding should have no fear of any deficiency disease, nor need he dread any infectious ones either, if the foods containing the necessary vitamins (fruit juices and cod-liver oil) and vegetables and cereals are supplied at the proper age to the infant. Also he should not forget an abundance of sunlight and unhindered exercise.

Intestinal disturbances need not be feared if the mother is instructed what to do when the infant vomits, or has diarrhea or fever. The early recognition of these symptoms will spare the infant many a hazard, and dehydration will be prevented if they are properly arrested. The athreptic condition (chronic malnutrition) does not occur if frequent mild diarrheas are taken care of, whether due to improper food or focal infections. If in the beginning of the ailment all food or often only the offending article or element in the formula is stopped for twelve to twenty-four hours, or longer if necessary, and saccharin water, weak tea, or high caloric orangeade is substituted, and laxatives are avoided, the gastro-intestinal upsets of this character will be nipped in the bud. Dysentery cannot exist if the same precautions are taken as in typhoid.

Rickets, a preventable disease, is a marked factor in infant mortality, and by this condition babies are rendered susceptible to other infections. Children suffering from rickets may develop tetany. This also is a preventable nutritional disease, and often the outcome is serious. Scurvy, a deficiency disease producing changes in all the cells and tissues of the body, is prevented by antiscorbutics. The allergic diseases, eczema, asthma, and urticaria, are also preventable disturbances, especially asthma.

The greatest menace from the viewpoint of the pediatrician, is the patented infant food. The unwary are caught as by "blue-sky" investments. These foods are advertised through some of the medical journals, and I am very sure that when we have fostered them long enough these same advertisements with full directions will appear in lay papers. Too many such foods, with instructions, are sold in our department drug stores. Two of these proprietary foods have the approval of pediatricians. Preventive peditrics cannot endorse any of these foods. Why should we use them when there are nearly 100,000 accredited herds of cattle in the United States? There are over 14,000,000 cattle under supervision, and there are 170 counties in the United States free of bovine tuberculosis.

Use certified milk or raw milk. At this age none other than boiled milk, either in formulas or plain, should be given to infants. None of us would like to eat our three meals out of a tin can daily for the next year. Let us, then, tear the tin-can stuff out of our textbooks and journals, and unshackle our infants.

The foregoing principles I have carried out for several years, and if this conception of preventive pediatrics is correct I would make the following recommendation in conclusion; namely, that if disease is to be prevented, pathology of later life reduced, and every child given an opportunity to achieve the higher standards of life, the infant must be supervised during the second, third, and fourth years in the same way as during the first year (see chart). The mother must be given strict written instructions, the formula may be continued by bottle if you please, the sun and air utilized, immunization done early, and the resultant product will be a perfect specimen, with straight sturdy legs, straight back, flat shoulder blades, full, rounded chest, strong white teeth, bright, sparkling eyes, erect body, and will be strong and well-developed, happy, keen, and energetic, with a

healthy appetite and the height and weight record of an infant considerably older than the average.

Results Obtained in Height and Weight Above Average Age By Giving Four Meals Daily With Formula Beyond First Year

Case No.	Formula Begun			Present Age in Months	Present Height and Weight			Height and Weight Equals Average Infant
	Age in Mos.	Weight						
		Lbs.	Oz.		Inches	Lbs.	Oz.	
1	3	8	9	19	32.8	25	10	21 months
2	1	8	14	23	35	33		27 months
3	1	9		36	38.5	34		36 months
4	1	8		26	37	32	10	36 months
5	7	18		36	41.2	39	4	5 to 6 years
6	5	19		31	38.5	41		48 months
7	2	10	3	24	36.2	30	12	30 months
8	1	8	9	18	33.7	26	12	24 months
9	4	10	2	29	32.4	25	5	31 months
10	6	13	6	51	43	50	6	6 to 7 years
11	13	24	2	33	39	37		48 months
12	3	10	4	30	36.5	31		33 months
13	2	7	10	36	39	37		5 to 6 years
14	2	11	13	30	38.5	33	12	48 months
15	3	10	2	14	31.5	25	4	19 months
16	9	18	10	34	38	34	12	48 months
17	2	8	3	36	39	35	12	5 to 6 years
18	5	10	14	21	33.4	27	4	23 months
19	1	9	13	29	36.12	33	6	31 months
20	2	11	4	47	40.5	37	4	6 years
21	2	9	2	28	36.3	31	6	31 months
22	6	14	2	36	40	47	6	5 to 6 years
23	7	18	11	18	34	27	8	24 months
24	3	9		35	57	32	12	36 months
25	4	11	2	19	32.7	26	5	22 months
26	1	7	1	26	34.8	28		26 months
27	15	18	5	32	38.5	34	6	48 months
28	2	7		24	33.4	28	8	25 months
29	7	17	4	17	34.6	31		28 months
30	3	12	14	20	33.4	29	7	20 months
31	24	22		48	39.2	34	4	5 to 6 years
32	12	20		29	38	34	5	48 months
33	12	20		21	32.5	25	3	22 months
34	18	23		23	34.7	29		26 months
35	8	18		42	38	34		48 months

Summary

(1) Recognized transmissible disease should exclude persons from parenthood.

(2) Prenatal care should be given every pregnant woman.

(3) Physical examination and supervision of mother or nurse of infant is a requisite.

(4) In private practice, as in the hospital, a regular plan can be followed.

(5) Strict isolation for the first and second years of the infant's life or longer is desirable.

(6) Proprietary foods should be discarded, and milk from supervised dairies used.

(7) A regular diet and formula should be given beyond the first year.

(8) Such a plan reduces nutritional deficiency and contraction of parental diseases, and produces a child free from mental or postural defects and far above the average infant in height and weight.

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THE RÔLE OF THE PEDIATRIC CLINIC IN PREVENTIVE MEDICINE

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The rapid progress made in the prevention of disease within the last decade constitutes, without question, one of the outstanding features in the march of medical progress. This is especially true with reference to infants and children.

While the physician of a generation ago preached preventive methods to mothers in the care of their infants and children those same mothers were frequently so nagged by neighbors for taking well babies to their physicians that they discontinued after one or more visits, and the physician was resorted to only after the illness had been prolonged and home remedies and neighborly advice had failed. That the latter form of medication is still adhered to by many we must believe when we find the clinics full of diarrhea cases in summer and pneumonia and allied maladies in winter. This practice is, however, being gradually and certainly eclipsed by the knowledge of the younger generation of mothers, who believe in keeping their children well, just as surely as the services of the midwife are being dispensed with in favor of the teaching and practice of modern obstetrics by the physician.

Reports of various agencies now dealing with the welfare of family life in relationship to the community prove that thousands of dollars are being spent for care of dependents, both physical and mental. Much of this could have been prevented had these cases from conception, through

infancy and childhood, had the following: (1) Intelligent prenatal care. (2) Proper feeding, especially for the prevention of rickets, scurvy, and other nutritional diseases. (3) Periodic medical supervision to insure a high percentage of immunity against the inroads of the many systemic and constitutional diseases. (4) Proper care of the teeth. (5) Removal of diseased tonsils. (6) Correction of impaired vision. (7) Prevention of contagious diseases when possible. Such a constructive program of early prevention would now release to these various agencies a much larger sum for use in improving environment and promoting social hygiene among our ambitious and now healthy boys and girls; in raising parental standards, thus making for more congeniality and better homes; in allaying the restlessness of our handicapped youth by providing suitable occupation and recreation, thus making for a bigger and better future generation.

The mother of today is taught to bring the baby to her physician that she may receive instruction in its care and feeding, and in keeping it well from birth to maturity. The demand for such information has so increased that it has been necessary for some of the children's hospitals to create a new department entirely separate from the usual medical departments for the express purpose of instructing parents, and for the earliest possible correction of such defects as are present at birth or are developed in early infancy.

In looking over the list of dispensary clinics of general hospitals, we find that they may have one or more clinics pertaining to preventive medicine. One may have a prenatal clinic, possibly a postnatal one; another may have a nutrition clinic, a well clinic or a health clinic; each one of them conducted independently and without correlation with the general clinic. The interests of the community could be better served were all these preventive clinics combined and working as a unit.

To this end, the social-service department of St. Christopher's Hospital in Philadelphia, in July, 1924, organized a department of preventive medicine to continue the health guidance begun in the health, nutrition, and well clinics. With the very efficient help of my associates and the splendid coöperation of the social-service department, we now conduct the following clinics:

(a) *The Health Clinic.* This is for the preschool child, and was organized to care for the needs of babies discharged from both hospital wards and general clinics. In this clinic we have also the normal newborn babies who need general supervision, yet should not be exposed by contact with the sick babies in the regular clinics. This clinic is held one afternoon a week, and is usually preceded by a short talk to the mothers on relevant subjects; namely, the general care of the baby, prevention of common colds, diarrhea, constipation, the various types of stools and their significance, vomiting and its relation to infant feeding. After this the baby is weighed, its temperature is taken, and it is seen by the clinic physician who gives the mother specific instructions for its care. This clinic has an enrollment of about 200 babies, who are brought to the clinic every one to four weeks as directed.

(b) *The Well Clinic.* This is conducted three mornings a week for the examination of apparently healthy children referred to us by various social agencies, through whom medical care or financial assistance has been sought. Usually all the children in such a family are thoroughly examined, and to do this, patience, skill, and special knowledge of the normal child are required in order to detect disease in its first stages, and to make suitable recommendations to be carried out under the supervision of a social worker. Each child then reports back to this clinic physician every six months for a reëxamination and to ascertain the degree of success attained.

A few figures will show the number of children examined during the past year, for the social agencies named:

Family Society (Kensington District)—number of children examined, 72; number of recommendations made, 252; number of recommendations completed, 168. *Mothers' Assistance Fund*—number of children examined, 138; number of recommendations made, 426; number of recommendations completed, 306. *Baldwin Day Nursery*—number of children examined, 82; number of recommendations made, 234; number of recommendations completed, 214. *St. Christopher's Hospital Social Service Department*—number of children examined, 244; number of recommendations made, 731; number of recommendations completed, 478. The total number of children examined in this clinic for the year was 1,348. From these figures it is apparent that the advantage of the constructive and permanent work done by such a department far outweighs that of any temporary repair work.

(c) *Nutrition Clinic.* Held one afternoon each week, this clinic is for the older child of school age who needs special attention. In this class we strive to get the coöperation of each child with whom we come in contact in making perfect health his highest ideal. The child is weighed, measured, and told how much he must gain to attain normal weight. He learns of the benefit derived from the following daily rules. (1) Properly brush the teeth several times. (2) Eat fruit. (3) Drink at least four glasses of water. (4) Eat at least one green vegetable a day. (5) Drink at least four glasses of milk. (6) Play out doors. (7) Take a bath oftener than once a week. (8) Wash the hands and face before eating and at bedtime. (9) Get nine to ten hours of sleep with open windows. (10) Take an afternoon nap. The presentation of the steps to health as an interesting competitive game is carried out by an energetic worker, followed up by individual instruction by the physician in charge. This method of approach has been highly successful, and from a weekly attendance of thirty or more children, we are able to graduate at least twenty a year.

(d) *Schick Clinic.* This is for diagnosing the susceptibility to and preventing diphtheria, a disease which formerly claimed the highest mortality of all contagious diseases in children from one to ten years.

The three toxin-antitoxin injections are given to all children from six months to twelve years of age, and are followed up six months later by the Schick test to determine whether or not the child is immune. Children over twelve years of age are tested first, and if found positive they are then given the toxin-antitoxin injections. The small number of 2,019 injections given during the past year is accounted for by the fact that the treatments are also given by the city in the health centers and public and parochial schools.

(e) *Dick Clinic.* The Dick test for diagnosing susceptibility to scarlet fever is done at the same time as the Schick test, and a record is kept of all the positive cases. While I have given some of the children the scarlet fever toxin-antitoxin injections, I am willing to wait until a serum or antitoxin is made which confers longer immunity than the present one, which gives only from twelve to eighteen months.

(f) *Vaccination Clinic.* All the children who have not been previously vaccinated are done when they receive their third diphtheria toxin-antitoxin injection.

(g) *Vision Clinic.* This class is under the supervision of the department of ophthalmology, and is for the training and strengthening of the eye muscles after the immediate defects have been corrected. The instructor in charge is specially trained in this type of work.

(h) *Heart Class.* This class, under the supervision of the department of cardiology, is purely educational, and, according to the American Heart Association, it is the only one of its kind in the city and perhaps in the country. The assistant physician in the cardiac clinic is in charge, and gives group instruction similar to that presented in the nutrition clinic. Any cardiac handicap is never emphasized, the child being taught the proper way to live a normal life. We lay great stress on the value of rest, of proper foods, and of sufficient and suitable clothing to prevent illness from exposure. At stated intervals the child reports to the cardiac clinic for reëxamination and necessary treatment.

(i) *The University Health Club for Boys.* This club consists of a group of adolescent boys whose health has been brought up to normal and among whom the work is continued during the winter by monthly visits to the clinic. General health topics and previous recommendations are discussed with the supervising physician, and the foundation is laid for a summer-camp-life schedule when the boys attend the camp maintained by the University of Pennsylvania.

(j) *The University Health Club for Girls.* The work done here is parallel to that done in the boys' club, and is directed by a woman physician.

(k) *Neuropsychiatric Clinic.* This clinic, often called "Habit Clinic" or "Child-Guidance Clinic," has been the most recent addition to our department. The successful solution of the problems presented during the past two years proves the urgent need for such a clinic in thickly populated communities. Under the careful guidance of a neuropsychiatrist, his psychologist and associate social worker, the child can learn to solve his troublesome personal problems, and the parent can be instructed in wise disciplinary methods.

(l) *Mothers' Meetings.* These meetings are held one evening a month, and are always well attended by the mothers of our clinic children. Here we strive to promote health through the parent, the talk each month being given by one of the staff physicians, supplemented by moving pictures and demonstrations of the value of milk and various foods. The basic principles of personal and social hygiene are again emphasized, together with the need for censorship in the choice of playmates, literature and movies, etc.

No mention has been made of a posture class because I feel that a normal child can obtain more thorough instruction in a gymnasium, while the child possessing some postural defect requires individual instruction obtainable in the orthopedic clinic.

Heliotherapy, both natural and artificial, has proved an invaluable adjunct to the clinics, and is being used with consistent success, not only for the treatment of disease, but as a preventive measure.

In concluding, let me return to the importance of social-service coöperation in these clinics, which can be best illustrated by the following case report.

The Ben family consists of two thrifty, independent, German-American parents and five clean, neat, and obedient children under 14 years of age. All the children were examined in the Well Clinic on December 1, 1925.

Charles, aged 12, had had his tonsils and adenoids removed, but was referred to the heart clinic, as he has a systolic murmur; to the Schick clinic and to the Kensington Dispensary for Tuberculosis. Though the von Pirquet test was negative, he was sent to their preventorium at River Crest for several weeks and then to Camp Happy (Philadelphia's haven for undernourished children), where he gained four pounds in weight. He had complete blood counts, urinalysis, and a basal-metabolism study. He has continued in the heart clinic up to the present time, and his condition has so improved that he need only return for observation once in six months. He joined the University Club in 1926 and was made vice-president, had his teeth attended to so that he could go to camp last August, and to date has gained twenty-five pounds and grown five inches in height since the Well Clinic examination.

Emma, aged 10, was referred to the eye, nose, and throat, Schick, and nutrition clinics. Glasses were secured for her, her tonsils and adenoids were removed, and urinalysis and a complete blood count made. In the summer of 1925 she was at Camp Happy, in 1926 at the Children's Seashore Home (Atlantic City) and Camp Happy, and in 1927 at the Girls' University Camp. She has gained eight pounds since her Well Clinic examination.

Bertha, 9 years of age, was referred to the nose and throat, dental, Schick, and nutrition clinics, and all these recommendations have been carried out. In 1925 she was at Camp Happy, in 1926 and 1927 at the Children's Seashore Home. In 1926 a systolic murmur was detected, and since then she has been attending the heart clinic and heart class, where quartz lamp treatments were recommended. The von Pirquet test was negative.

Alfred, 7 years of age, the healthiest of the family, was referred to the dental and Schick clinics, and both recommendations have been carried out.

Mildred, aged 4, had her tonsils and adenoids removed in January, 1925. From the Well Clinic she was referred to the nutrition, Schick, and dental clinics, and to the Kensington Dispensary for consultation, but the report was negative. She was at River Crest for a

month in 1925 and at the Children's Seashore Home in 1926 and 1927.

From this abstracted report can be noted the close follow-up work done on all patients. We work either with the family directly or with the agency referring the patient. This puts the worker on her mettle. The children in her families must be as near 100 per cent physically and mentally perfect as possible. It is the community hospital caring for the children of the community. There is such fine material in the small citizen-to-be that we, as a group of medical workers, must bend all our energies toward this goal—preventive pediatrics.

THE INFLUENCE OF MENTAL GUIDANCE AND HABIT FORMATION ON THE FUTURE WELFARE OF THE CHILD

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Twenty-five years ago pediatrics as a specialty was just attacking the problem of the health of infants and children. The death rate was appalling. A new frontier in medicine was opened up, and development proceeded with almost a rush, until now the work as it concerns the physical health of children would seem largely finished.

About fifteen years ago another, and if I may say it, most alluring frontier in medicine was thrown open when a newer conception of neuropsychiatry appeared. Intensive studies in nervous and mental disorders by doctors who emerged from the retreats of lunatic asylums and by psychologists who became interested in the problems of living persons showed rather plainly that the trail in many forms of psychoneuroses and possibly in certain types of psychoses led straight back to childhood.

As a practicing neuropsychiatrist, my problems are chiefly with the sick adult, inefficient and unhappy because of bad ideas and exhausting emotions. I am also too often the unhappy, helpless spectator in cases of mental disorder known as dementia præcox, whose victims comprise about 60 per cent of our asylum population. The cure of the psychoneuroses is difficult, slow, expensive, and not always complete. The social recovery in cases of dementia præcox is seldom perfect, and most often only temporary. You are interested in the physical health of the child of today because he becomes the adult of tomorrow who must meet an extremely complex world, not only to survive, but to live happily, efficiently, and contribute his bit to the general welfare. I am interested in the mental health of the adult who fails to meet the responsibilities of modern life, or after a trial breaks under its burdens. The cure of disease is secondary to its prevention. The behavior disorders of children interest you because of the trouble they cause anxious parents; they interest me because they are often sign posts pointing to adult unworthiness, social failure, and even mental oblivion. So the neurologist and the pediatrist have a very important common problem.

The child-guidance division of the National Committee of Mental Hygiene has just finished a five-year experimental campaign based on the work of excellently-staffed clinics in certain cities. A mass of data has been collected which will take some years to digest without prejudice. Enough work has been done, however, to indicate that many of our old ideas have been wrong or at least overstressed, and that the real difficulty lies in the faulty molding of the extremely plastic material of children into bad emotional states and abnormal habits.

Too great stress has been laid on heredity. In spite of the much-advertised good and bad family history, a good or bad heredity does not necessarily indicate a good or bad prognosis in any individual case. The particular pattern of the chromosomes in the germ cell most probably conditions the intellectual capacity of the individual, which remains at a somewhat fixed limit throughout life in spite of all educational opportunities. This is not so discouraging as first it may seem, because intelligence alone is not the only factor in a successful personality. We have seen examples of this in our own school and college experience. Conversely, it is not true that behavior disorders, delinquency, and even crime are strikingly linked up with mental deficiency. Healy, in a group of four thousand delinquents and criminals, showed that 72.5 per cent were practically normal in intelligence. Heredity also conditions, in some instances, physical patterns, emotional trends, and even some indefinable factors in character formation. In general, however, for our own good as individuals and also as physicians, we must free ourselves from the pessimism and bondage of the old-fashioned ideas of heredity, and yet steer clear of adopting completely the doctrine of the behaviorists who trace everything to environment and promise everything through it and education.

The physical handicaps of children naturally merit attention and correction because in certain cases the intellectual and emotional development of the child may be so retarded. Vigorous physical health is a desideratum, but it

does not necessarily produce mental health, and in the majority of instances in my experience, behavior disturbances cannot be traced to physical causes. Recently there has been a perfect furor raised by the possibilities of endocrinology. While we can see the effects of possible glandular imbalances in determining certain structural patterns, mental and physical dynamics, sexual urges, minor physiologic and biochemical anomalies, we are by no means prepared to interpret the maladjustments of individuals on this basis; and if we should do so, we are still less prepared at the present time, honestly and scientifically to treat such conditions by the widely advertised glandular products, thyroid of course, excepted. Last of all, while acknowledging our great debt to the dynamic psychology of today and specifically to the much overemphasized psychoanalysis, we must realize that any philosophy which exalts the independence of the individual as a means of making him comfortable and happy is sure to lead to the breakdown of moral laws and conventions which are necessary and really good for all of us. Children are all individualistic, but inevitably must undergo a process of socialization, whether it breaks them or not.

If we are to understand children at all, we must recognize that the two dynamic qualities of their little minds are imitation and suggestibility, and that through these their education proceeds, not in intelligence but in character formation. Modern educational theory emphasizes the development of personality and character, and recognizes that infancy and childhood are the times to begin. Dr. John B. Watson has shown that infants have far less instincts than was formerly believed. They have reflexes, some unlearned reactions, and no habits. Being extraordinarily plastic, the infant quickly does things through imitation and suggestibility, and in an amazingly short time habits are formed under the guidance of the emotions, which will be seen to take the place of what we formerly understood as instincts. The things that please are apt to be repeated, and the things that hurt are sure to be avoided. There is little wonder that the behaviorist believes so strongly in the influences of environment for good or evil, but the wise control of environment is not so easy as it might seem to be.

Besides being imitative and suggestible, loving pleasure and avoiding pain, children have other emotional traits in varying quantity and quality that may easily range from the normal to the abnormal. They are strongly individualistic, independent, love power, like the center of the stage, are curious, venturesome, given to romancing, and to some degree to savagery. With patient direction along a middle course, these traits are important elements in the formation of a good personality, but strict and impatient repression may lead to timidity, lack of confidence, dependence, seclusiveness, and mother fixations which are often permanent handicaps to successful adult endeavor. Fear, love, anger, selfishness have their place in the emotional life of children as well as adults, and emotional deficiencies are as dangerous as emotional excesses.

The whole matter is so complex that it is impossible in a short paper like this to do more than indicate the general principles. Much could be written on what not to do to the child and also what to do with advantage. On reflection, the responsibility of parenthood would seem appalling—and to some it is—but there is the comforting thought that our own childhood, with its desires, disappointments, pleasures, pains, errors, successes, dreams, and realities, still lives in the memory of all of us. With this wonderful storehouse of knowledge and experience, it is possible for the wise parent to meet his responsibilities if only he will exercise tact and a judicious amount of authority. In the last analysis, therefore, child guidance is intimately associated with the problem of the home in infancy and early childhood, with, later on, the important additional influences of school and community life.

It is the fashion nowadays to indict the home and our social institutions. With increased material comforts there has been a change that has made the problems of all of us more difficult. There is less respect for law and order, less rigid social conventions, less interest in religion, and above all, less cohesiveness in the home. These conditions were not brought about by children. Parents must realize in what way their own mode of living modifies the personality of their children. The behavior disorders of parents are intimately linked with the behavior disorders of children. If the family life presents faulty thinking in religion, politics, health, finance, and respect for the law; if the domestic atmosphere is charged with selfishness, passion, vulgarity, and cruel dominations; and if the home crashes under divorce, desertion, intemperance, or death, we must expect our children to suffer. There is more than one way of creating our children according to our own image. And remember these things are not the attributes of poverty, for low home standards occur among the rich as well as among the poor.

Social welfare, in its present development, in

various ways touches on the problem of juvenile behavior as well as health, as witness prenatal care, better obstetrics, good milk, disease campaigns, safety-first instruction, playgrounds, better schools and parent-teacher associations, and not the least important in the past few years are courses of instruction to parents. While adequate attention is now paid to the physical and intellectual needs of children, there must come a much greater appreciation of what are the stimulating and deteriorating factors in environment.

In conclusion, I wish to say that I feel I have not done justice to a very important and vital subject. I have tried to show that character formation is a complex process of development of the human nervous system which begins almost with the first week of life and continues through adolescence, with perhaps the most important period that of childhood. Personality consists of a variable mixture of intelligence, emotional balances, and habit formations, and of these the last two are the most potent in the average individual. While intellectual capacity is somewhat definitely fixed at birth, and is cultivated slowly and painfully according to recognized and standardized methods, the emotional factors in life are developed qualitatively and quantitively with amazing speed under the manifold everyday experiences of life itself. These experiences are in a large measure those of the particular environment in which the individual lives, and may be modified or controlled in direct proportion to the insight, tact, and authority of the adults in charge. I like to remember a certain scene in Maeterlink's play, "The Bluebird," where the unborn children in happy impatience are clamoring to be born that they may try living. And I like also to recall Roosevelt's words when he learned of Quentin's death in France, that only those were worthy of dying who had proved themselves fit to live. Life is not a happy experience for many of us, and death finds many who have not proved themselves worthy of it. Just as physical hygiene has reduced the scourge of tuberculosis, so mental hygiene, especially of childhood, would reduce to a large extent the unhappy failures in the adventure of living.

ABSTRACT OF DISCUSSION

Of Symposium on Preventive Pediatrics

Lawrence Litchfield, M.D. (Pittsburgh, Pa.): It seems to me that, in our modern hurry, parents do not give enough time to their children. The busy mother and father get a dash of psychology, and try too much to apply science to the training of their children. We must realize that these children are just "other people."

Henry T. Price, M.D. (Pittsburgh, Pa.): There is entirely too much pseudoscientific knowledge being spread abroad about the care of children. The physician who does not read all the late literature that is presented to the public is handicapped because he is not able to answer many, many questions.

As an example, there is the case of a child who was severely burned several years ago, and was taken to a hospital. The family was well educated, but the mother was interfering by trying to direct treatment, and the child was not getting along well. I was asked to assume charge, but refused unless given absolute control. The child was taken to another hospital, put in a ward with other children, and the mother was permitted to see it only every two or three days. We were thus able to carry out the treatment the doctors in the other hospital had wanted to use, and the child improved. However, the mother wrote me a letter asking: "How much orange juice are you giving this child a day?" I replied that we were not giving any specified quantity, and the mother answered, "If I had a million dollars I would give it to you if you would give the child five ounces of orange juice daily in order to prevent the development of intestinal ulcers which always occur in cases of burns."

The child was finally taken home in good shape, but a chiropractor was immediately employed to treat contractures from the burns, and the family has never ceased to condemn our hospital and our treatment for saving the child's life. These are what I call educated but not intelligent people. The pediatrician has many such cases, and he must be firm in his determination to consider the child alone. As Dr. Wright suggested, the child will coöperate very well with the physician if given a chance, and with this coöperation, much can be done for the child's benefit.

Congenital and Early Developmental Variations of the Eye and Orbit *

DEVELOPMENTAL DEFECTS OF THE EXTERNAL STRUCTURES OF THE EYE AND ORBIT

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Congenital anomalies of the eye and orbit are varied and numerous. The more highly specialized the structure, the more likely are developmental defects to occur. This paper deals with congenital variations of the orbit, muscles, scleral coat, and lacrimal apparatus. Albinism, color blindness, word blindness, etc., are included. Treatment is not considered.

The Sclera

The sclera proper does not offer much in the way of congenital variation. An interesting condition is congenital thinning out, bluish discoloration of the sclera, with brittleness of the bones,

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and deafness. Total ectasia—hydrophthalmos and buphthalmos, with or without participation of the cornea—is either congenital or acquired in early childhood. It is probably the analogue of glaucoma in adults.

Marshall[1] reports the case of a female child aged three years. A few days after birth it was noticed that the right eye was a different color and larger than the left, gradually developing into well-marked buphthalmos. The iris was adherent to the cornea, except for a small area around the pupil, giving it the appearance of iris bombé. Considerable intercalary staphyloma was present, and there was slight nystagmus (lateral) of the left eye. The child had been seen by another observer when she was 14 days old, and a diagnosis of pseudoglioma of the right eye was made. The eye was enucleated on account of its size.

Macroscopy: The length of the eye was increased in the anterior part due to the presence of staphyloma, which was almost a complete hemisphere about 19 mm. in diameter, and separated from the sclera by a distinct groove. Its central part was formed by the distended cornea and its periphery by an intercalary staphyloma. The cornea and pupil were centrally placed in the upper nasal quadrant. The pupil was small, adherent to the cornea, and the anterior chamber was correspondingly small.

In place of the lens and the suspensory ligament was a thin bluish membrane, to the central, thickened portion of which the pupillary margin was adherent. This membrane separated the posterior chamber from the vitreous, its peripheral margins being attached to the tips of the atrophied ciliary process. The center of the membrane was pulled forward by the distention in the anterior part of the eye, and this created a cavity posteriorly. The membrane was very thin at its edges, but grew thicker toward the pupillary area. From its thicker parts a small conical projection extended backward, and to it was attached a complete hyaloid artery containing blood and attached to the head of the optic nerve. The vitreous was more fluid than normal.

Microscopy: The intercalary staphyloma was composed of scleral tissue covered by conjunctiva. In the upper part of the cornea Descemet's membrane was normal, but in the lower part it was thin and not continued over the intercalary staphyloma. The typical rupture of the membrane was present, but the cornea showed no perforation.

The lower part of the iris was atrophied, consisting merely of pigment epithelium, some mesoblastic tissue, and a few cells representing the sphincter muscle. The upper part was more nearly normal, both as to its relation to the cornea and to its sphincter. The latter was well formed but turned back on itself so that its anterior surface was adherent to the fibrous membrane. The vessels were larger than normal and continuous with those in the membrane behind the pupil.

The remains of the lens were seen in the fibrous membrane already mentioned, and a small calcareous deposit was found in the center of the lens substance. Just anterior to the capsule was a collection of round cells. Anterior to the remains of the lens, the tissue was more like iris stroma, and posteriorly it was composed of layers of fibers running in the direction of the ciliary body. Between the fibers were many spindle-shaped cells.

The hyaloid artery joined a number of thin-walled vessels on the posterior surface of the fibrous sheath of the lens. This artery also joined the retina at the lower part of the disk. The retina was thrown into folds, probably as the result of traction of the distended globe on the hyaloid artery.

The condition was buphthalmos due to malformation of the anterior part of the eye. The lens rudiment was completely enclosed in a fibrous capsule to which was attached the persistent hyaloid artery.

The diagnosis of pseudoglioma soon after birth would indicate that an anterior chamber had been present. The persistence of the definite connection between the iris and the fibrovascular sheath would give sufficient cause for the increased tension in the eye and might naturally lead to the condition of iris bombé. The stretching of the anterior portion of the eye had destroyed all evidence which would support any other point of view. The case differs from similar instances of anterior staphyloma in that the changes took place after birth.

During the discussion of Marshall's report, Mr. Treacher Collins pointed out that in nearly all cases of persistent patent hyaloid artery there is a gap in the posterior capsule of the lens—a developmental failure which occurs very early in fetal life and probably causes the persistence of the hyaloid artery. Sometimes the fibrous tissue that develops around the artery grows into the lens capsule and causes absorption of the lens substance, but in the case under discussion the condition was a fibrous congenital cataract. It was not an inflammatory one, in which the iris had been pressed forward, but one in which the iris had never been properly separated from the back of the cornea.

In reply, Marshall stated that the evidence was in favor of a maldevelopment with perhaps a toxic influence. The presence of slight nystagmus of the other eye suggested that the factor producing the anomaly was not local.

Hydrophthalmos may be an associated condition in Recklinghausen's disease. The different phenomena of neurofibromatosis multiplex are mostly congenital. All of the changes are seldom present in any one case. According to Fuchs, they are multiple neurofibromata, fibrous mollusca, and flat pigment moles of the skin, plexiform neuroma, lymphangioma of the lids and orbit, unilateral hypertrophy of the face, and tumors of the optic and auditory nerves.

Volmer[2] reports an epibulbar dermoid cyst containing a tooth and firmly adherent to the sclera. The cyst was located between the lateral and superior recti below the conjunctiva, which was normal, and radial to the limbus. It was firmly adherent to the sclera, and, after the anterior capsule had been removed, was found to contain a tooth. Whether or not the cyst in this case

was found at its primary site of development could not be determined. At any rate there was no connecting band leading to the bulbus.

The Cornea

Dermoid cyst of the cornea shows the same characteristics as other dermoid cysts. It rides the margin of the cornea like a misplaced island of skin, involves the conjunctiva, is white or reddish-white in color, flat and sessile, is usually situated on the temporal side, and is immovable. Other congenital anomalies are apt to be present elsewhere. The cyst may grow in size after birth. In the newborn, a dense bluish-white opacity of the cornea is sometimes seen. This opacity is often produced by traumatism (usually forceps), and will very likely disappear in time. It may be inflammatory—fetal keratitis. Embryotoxon is a congenital opacity resembling gerontoxon. Melanosis corneæ is a congenital opacity of the deep central layers. It is symmetrical and, as a rule, involves both eyes. This symmetry, uniformity, and location serve to differentiate it from acquired pigmentations of the posterior layers, as in iridocyclitis, blood staining, or pigmentation from anilin dyes.

Kreidlova[3] describes an anatomic finding of a congenital corneal opacity without any trace of inflammatory changes. The opacity was caused by marked thickening of Bowman's membrane and a defect in the endothelium. He also found the epithelium thinned, the stroma loosened, and a slightly diffuse anterior synechia thinned almost to half its size. Descemet's membrane and endothelium were partially wanting. The extensive embryotoxons and ectopia of the pupil also indicated a fundamental disturbance of embryonic development.

A second clinical observation is also of value in the same sense in which microphthalmos, embryotoxon, central leukoma adhærens, congenital iris coloboma on one side and on the other, congenital anophthalmos were present.

Metamorphoses of congenital opacities are not so liable to occur as in the acquired, but the possibility of change in later life is recognized and must be borne in mind as a factor in diagnosis.

Miller reports a case of congenital dermoid cyst of the cornea in conjunction with dermolipoma at the outer canthus.

Flat cornea is well described by Swett[4] in his report of a case. An abstract of his findings and his differentiation between flat cornea and microcornea follow:

An orphan boy, aged seven years, came under observation for poor vision. Examination revealed cornea plana of both eyes and 5-degree strabismus. The description applies to both eyes. The entire frontal section of the globe was flat; the cornea was small, vertically oval, and appeared flat as though the iris were directed against the posterior surface. The white of the sclera faded into a bluish-gray and then into the transparent cornea, without any line of demarcation, the curve of the flattened cornea being continuous with that of the flattened anterior section of the globe. Under the corneal microscope many small, linear, grayish dots were seen in the transparent parts, similar to, and probably of the same tissue as the cloudy marginal zone.

All of the reported cases show the same small flat cornea and the overlapping limbus with the cloudy, milky-white peripheral zone, giving the impression that the sclera is continuous with the cornea.

Ruebel[5] reports the condition in three brothers.

Von Hippel, also Ruebel, find the delicate parenchymatous cloudiness to be of the same structure as the sclera, and can find no other cause for it than a congenital anomaly. It is stationary, as none of the reported cases show a subsequent increase in the curvature.

Swett gives the following table as useful in differentiating between cornea plana and microcornea:

Cornea plana	*Microcornea*
1. Abnormal flatness.	1. Increased or normal curvature.
2. Poorly defined limbus.	2. Normal, clearly placed limbus.
3. Corneal refraction average 28 to 35 D.	3. Average 46 D.
4. Corneal radius 10 mm.	4. Corneal radius 7.3 mm.
5. Total refraction plus 7 D.	5. Minus 2 D to plus 18 D.
6. Normally formed or enlarged bulbus.	6. Microphthalmia.
7. Malformation of anterior segment and limbus.	7. Malformation of entire globe; normal-shaped limbus.

The following is a short and interesting description of two cases of this rare anomaly reported by Felix.[6]

The patients were brothers with flat corneæ. Their parents were uncle and niece. Both children showed slight ptosis, not the result of paresis, but because the normal support of the corneal curve was wanting in both eyes. The younger brother also showed indications of epicanthus, and a slight converging alternating strabismus. The older one showed the remnants of a persistent pupillary membrane and a slight ectopia of the pupil. In the middle of the cornea there was a slight crescentic opacity without vessels. The periphery of the cornea was occupied by a dull border, wider above and below than nasalward and temporalward, which merged into the sclera without any interruption. From the conjunctival bulbi, fine superficial vessels ran rather far into the opaque zone, where they ended in a sharp line, so that they did not extend to the medial margin of the border. In the younger patient the radius of the cornea was 15.3 mm.; in the older one it was 12.5 mm. The corneæ were smaller than normal, although they

were not microcorneæ. The anterior chamber was flat.

Vision obtained in the younger patient with spherical + 10 D. was 3/10; in the older one, O.D., with spherical +14 D., cyl. +1.5 D., axis 50° nas., was 5/10; O.S., with spherical + 14 D., cyl. + 2.5 D., axis 40° nas., was 5/10. Taking all the findings together the condition in these two cases was a pure developmental anomaly.

Intra-uterine, i.e., congenital, inflammatory ulcer of the cornea is rare. Both congenital opacities and staphylomata are usually the result of noninflammatory deformities. Seefelder,[7] in a study of both eyes of a kitten, six days old, which at birth showed complete symmetric staphylomata of the cornea, found that the origin of the condition was probably inflammatory. The central part of the cornea was completely destroyed and replaced by young connective tissue. Toward the periphery, although the thickness of the corneal substance was still intact, it was completely permeated with polynuclears and mononuclears. The pupillary portion of the iris, including the pupillary membrane was completely adherent to the centrally located cicatricial tissue, so that the sphincter and large tracts of pigment cells were included in granulation tissue. The rich vascularization of the latter was supplied by vessels coming from the iris. The lens was absent. Almost the entire retinal tissue showed a duplication of the external corneal layer. In view of the short duration of gestation (45 days) of the cat, the infection must have occurred early, since the regeneration phenomena were rather well advanced, and at birth the eyes were pale and not irritated. The absence of the lens is best explained by the fact that it had escaped through the perforation. The duplication of the cornea is due to a temporarily arrested development of the eyeball, while the development of the retina was unrestrained.

The important feature of this study was the demonstration of an inflammatory origin of congenital staphyloma. Neither the organism nor the mode of infection could be determined. The latter was most likely endogenous, although the rest of the litter and the animal itself, except for the eyes, were perfectly normal and healthy.

Ashby[8] reports the following rare anomaly in a mother and one of her children, aged eight years (from his service in the Batang Padang Hospitals, Federated Malay States):

In both the mother and child the corneæ were almond-shaped, with the long axis placed vertically. The pupils were pear-shaped, apex downward, situated eccentrically in the lower nasal quadrant of the cornea. The apex was at the periphery of the cornea at 7 o'clock in the left eye, 5 o'clock in the right eye. The remainder of the pupils lay along a line from this point towards the midpoint of the cornea, and extended about two-thirds of the distance. They were equal, did not react to light stimulus, either direct or consensual, and reacted only slightly and slowly with convergence (noted in the mother's case only). They dilated well with mydriatics, retaining their pear-shaped aspect. Vision was good, except in the case of the child's left eye, where it was somewhat impaired by a few small white opacities in the lens. Ophthalmoscopic examination revealed normal disks. The macular regions could not be definitely made out. The child's eyes were in a state of constant lateral nystagmus. Its intelligence seemed to be average.

The woman's other two children, 9 and 6 years old respectively, were normal so far as the eyes were concerned. There was no history of syphilis in the mother, and none of the children showed any of the usual stigmata of the congenital variety.

The Conjunctiva

Epitarsus (Schapringer) or "apron of the conjunctiva" is a flat fold of conjunctiva of the lid, trianguloid in shape with its base directed upward. It is attached about the convex border of the tarsus above and near the free border of the lid below. A probe can usually be passed beneath it. This anomaly is considered by most authorities to be acquired as a result of ophthalmia neonatorum, although the congenital possibility is admitted by many.

Subconjunctival lipoma is a fatty tumor situated between the external rectus and the superior rectus; it is triangular in shape—base toward the cornea—and yellowish in color. Conjunctival lipomata may be quite large, and tend to grow at puberty. The conjunctiva over the tumor may resemble skin (lipodermoid). Ordinary cysts of the conjunctiva may be congenital. Angiomata of the conjunctiva are usually congenital and tend to grow larger. Melanosis may also occur in the conjunctiva.

The Eye Muscles

Ophthalmoplegia—internal, external, or total—may be congenital. Congenital paralyses most often involve the abducens. In these conditions, secondary contracture of the antagonists does not occur as it does in the acquired paralyses, and the paralysis is not apparent unless the patient attempts to turn the eyes in a direction in which the paralyzed muscle would be brought into play. The superior rectus may be absent, as is sometimes seen when congenital ptosis exists. It is quite frequently paretic even when no ptosis exists, and fixing with the paretic eye on adduction produces deviation upward of the unaffected eye. The inferior rectus is commonly involved, either slightly or markedly.

Duane's syndrome—paralysis of the external rectus and paresis of the internal rectus—produces a false ptosis when the eye is turned in.

The eye retracts into the orbit and turns upward while the lids partly close. Duane states the situation clearly and concisely as follows: "Many cases of so-called congenital paralysis are really due to absence, abnormal insertion, or other structural anomalies of the muscles themselves." Faulty position and deviation of the head are evident in early life because of muscle anomalies, and these anomalies may easily be factors in the development of squint, the congenital variation encouraging an added acquired deviation. These statements show the need of careful study of conditions before muscle operations are attempted.

Posey,[9] in his paper on anomalies of the ocular muscles, etc., discusses the subject under two headings: supernumerary muscles of the eyelids and the orbit and those of the eyeball itself. In the first he quotes liberally from Howe's work on muscles. The first part of the discussion comprises the muscle of Horner, which is not often mentioned in textbooks, and which is of considerable importance in tenotomy of the internal rectus. The second part takes up the gracilimus or transversus, described by various anatomists. It lies near the roof of the orbit, and is variously described as a band passing from the levator palpebræ superioris with inward connections to the oblique. It may be given off from the levator superioris in the shape of small branches of bundles inserted in the trochlearis. It may also arise from the anterosuperior portion of the orbital plate, pass directly across the upper part of the orbit, and consist of small tendinous bands enlarging into fleshy bundles and inserting into neighboring fascia, especially into the levator palpebræ superioris.

Anomalies of the muscles of the eyeball itself comprise absence of a muscle, such as the internus, externus, or superior rectus, both inferior recti, the oblique, and even all the muscles of the eye, as in a case described by Klincosch. It is in operation for the correction of congenital strabismus, and sometimes also of squint, that the absence of one or another muscle is noted. Sometimes muscles are found merged together or united to neighboring parts.

The author describes a personal experience during a squint operation in which the external rectus was inserted by two tendons. The patient was a boy (age not given). The right eye had converged from birth, and had not been corrected by glasses worn since his sixth year. Examination showed an alternating concomitant converging squint at 45°. A double advancement operation was performed. The left externus, instead of the usual single insertion, was found to have two tendinous insertions into the globe—two bands equal in size and development and about 4 mm. apart. They merged into two well-developed muscle bellies running parallel with one another until they were lost posteriorly in the tissues of the orbit. The insertion of the right rectus was normal.

In another instance of congenital right convergent squint, Posey found an accessory well-developed muscle just inferior to the tendon of the external rectus inserted into the globe by a short rounded tendon, passing obliquely downward between the externus and inferior rectus muscles, and disappearing in the tissues at the equator.

These and the other muscle anomalies described in the literature are explained as intrauterine errors in development by cleavage from the embryonic mesoblastic mass. They are all accompanied by deviations in the ocular axes, which may be confusing to the clinician as well as to the operator unmindful or unacquainted with such aberrations.

The Eyelids

The orbicularis muscle may be absent or practically wanting, as in a case cited by Blatt,[10] in which there seemed to be unilateral absence of the left muscle. The main points of interest in this congenital phenomenon in his case are briefly quoted: "Complete absence or arrested development of one of the muscles innervated by the facial nerve while the other muscles are intact is a very unusual phenomenon. If the faulty development and inactivity involve only one muscle of the lower facial musculature, its inactivity could easily remain unnoticed. But if the anomaly involves the orbicularis oculi, the symptoms are prominent, and call attention to the maldevelopment of the muscle on the one side."

The patient was a farmer, aged 21 years. His parents stated that all his life he had slept with the left eye open and suffered from lacrimation and irritation of that eye. There were no other similar cases in the family, and there was no history of birth injury. Physical examination was entirely negative except for some additional abnormalities.

Left eye—motility: With the eye wide open and looking directly forward, the left lid margin was much wider than the right, the lower lid hanging lax downward. The lid reflex was absent. After being pinched, the left palpebral fissure remained open 6 mm. without producing horizontal folds in the upper lid. Bell's phenomenon was positive, and increased lacrimal flow and slight catarrhal irritation were present.

Another rare anomaly is congenital cyst of the lower lid filled with serous liquid and lined with retinal tissue. It is associated with microphthalmos and a process connects the two.

In the phenomenon of congenital ptosis the levator palpebræ superioris is poorly developed or absent. Both eyes, as a rule, are affected, although not to the same degree. Inheritance seems to play a distinct rôle. Deficiency or absence of the superior rectus and the epicanthus are often associated with congenital ptosis.

Angiomata of the lid are telangiectases or cavernous tumors. They are congenital, but may grow later in life. The telangiectases are dilated and tortuous blood vessels in the skin of the lid. The cavernous tumors lie beneath the skin, causing a bluish, soft, compressible mass. Coloboma of the lid is rarely congenital. It occurs more often in the upper lid, and is apt to be accompanied by other anomalies, particularly dermoid tumor of the cornea. In Mongols a moderate degree of epicanthus is characteristic of the race. The higher degrees are a congenital malformation in all cases. It is apt to be associated with ptosis. A case of congenital ankyloblepharon reported by Oppenheimer[11] is here briefly cited.

The palpebral condition of the patient was normal, without follicles or scars. Eversion of both upper and lower lids, however, revealed a slight symblepharon, a fold which reached nasally to both borders of the lids. The plica semilunaris and the caruncle were missing on both sides, and a weblike bridge of true skin extended from one canaliculus to the other above where the lacus lacrimalis and caruncle ought to be. If stretched, this bridge or membrane appeared thinner, paler, and more transparent in the middle part, so that had there been a caruncle beneath, it would have been visible through it. No scars whatever could be seen.

In diagnosing the case, traumatism and inflammation or disease were ruled out because of the lateral occurrence and the symmetry, the absence of scars, the lack of semilunar folds, the missing caruncles, and also because of the history. Trachoma was out of the question. It was, therefore, considered a congenital malformation.

So far as the author was able to ascertain, no similar case is recorded. In 1908 he reported a case of ankyloblepharon filiform adnatum.

Congenital distichiasis. This anomaly was seen by Doherty,[12] who reviewed the literature and reported the following case:

The patient was a boy aged seven years. The appearance of his eyes suggested those of a dog. The upper and lower lids of both were affected. The supernumerary row of cilia were on the posterior edge of the lids, symmetrically placed, with even intermarginal spaces, and were normal as to length, number, and development. They were directed upward and downward from their respective lids, very nearly interlacing when the eyes were open. They rested against the cornea, which had the appearance of being protected by a layer of tears. Microscopic examination failed to show any opacities. The only complaint was a sensation of sand in the eyes and considerable lacrimation. There were no other congenital malformations present.

Similar cases have been reported by Parsons,[13] Kuhnt,[14] Collins and Mayou,[15] Szily,[16] Begle,[17] and Tibbles.[18] Owing to the fact that the meibomian glands are often absent, it is assumed that hair follicles developed in their place. Blatt reported five cases in one family which showed inheritance through three generations.

Moravec[19] cites the case of a woman, aged 27 years, in whom generalized fibromatosis of the entire body leading to elephantiasis of the left eye was present. The noteworthy points in this case were the presence of dermoids of the bulbar connective tissue, left iris coloboma, and right retinal coloboma. Such a combination of developmental anomalies and neurofibromatosis had hitherto not been described. It seems to indicate that the latter is referable to a hereditary degenerative tendency, a theory which receives some support from the fact that the patient's grandfather had the same disease. No mention is made of either hydro-ophthalmic enlargement of the eye or of tension.

Among other anomalies of the lids not heretofore mentioned in this paper Duane lists abnormal narrowness or entire absence of the lids (ablepharia) and symblepharon—complete covering of the eye by external skin—the latter replacing the lids and forming a uniform covering for the aperture of the orbit (cryptophthalmus of Zehender).

Lacrimal Apparatus

Duplication of the puncta and canaliculi as well as their absence has been recorded. Congenital elongation of the inferior lacrimal canal has been seen in two children by van der Hoeve.[20] His observations are briefly stated as follows:

The two children, aged six and nine months respectively, had unusually wide nasal bridges and very narrow palpebral fissures due to adhesions of the eyelid at the nasal angle. The superior lacrimal puncta were found at the normal site, and the inferior lacrimal puncta were located much more temporalward than normal.

Chronic dacryocystitis is not infrequently observed in the newborn. Perforation and fistula have been seen. In the fetus the lower end of the nasal duct is closed by a thin diaphragm. Belated perforation results in this disease. According to Rochon-Duvigneaud, decomposition of the gelatinous contents of the passages sets in and inflammation of the tear passages ensues. Congenital lacrimal obstruction may also be present above the sac. In this case the obstruction may be partial or complete.

The Orbit

Enophthalmos may be a congenital anomaly of position. In congenital paralysis of the external rectus the eye sinks back into the orbit on adduction, owing to the pull of the internus against the inelastic externus.

Cephalocele is a tumor situated at the upper inner angle of the orbit; it is covered by skin, and fluctuates. The difficulty of differentiation from dermoid cyst situated in this area cannot be regarded lightly, since removal of a cephalocele would be a serious matter, unless the communication between the meningocele and the cranial cavity is happily obliterated. The main points of differentiation are as follows:

Dermoid Cyst	*Cephalocele*
1. Movable.	1. More fixed.
2. No palpable bony aperture.	2. Aperture may occasionally be felt.
3. No pulsation.	3. Sometimes pulsates.
4. Same size under pressure.	4. Diminution under pressure with possible symptoms of increased intracranial tension.
5. X-ray shows no aperture in bone.	5. May show aperture.
6. Exploratory puncture negative for spinal fluid.	6. Cerebrospinal fluid positive.

Dermoid cyst is situated at the upper outer or upper inner angle of the orbit. The wall contains the structures of the skin. The contents consist of sebum, exfoliated epithelium, hair, and sometimes teeth. Sometimes the contents become converted into an oily liquid (oil cyst), some resemble honey (meliceris), and some are serous. According to Panas, those resembling serum originate from invagination of the nasal mucous membrane instead of the external germinal layer. Remak places them all in the category of original invagination of the external germinal layer with subsequent cystic change.

Angiomata.—Telangiectases and cavernous tumors are usually congenital, but are apt to grow considerably after birth. The former originate in the lid and later extend into the orbit. They are readily diagnosed at birth because of their superficiality. Cavernous angiomata originate in the orbit and their early diagnosis is not easy. Although some do not regard them as congenital phenomena, it is the sense of the writer that the postnatal growth is simply an elaboration of a congenital variation. In fact, the early diagnosis of these deep-seated orbital vascular tumors depends largely upon their variability in volume. When they have become larger and gleam through the skin with a bluish luster, the diagnosis is comparatively easy.

Teratoma of the orbit is rare. The literature affords two papers with case reports of particular interest—one by Kearney and the other by Corbett. Kearney's[21] paper reviewed the literature up to 1926. He found ten cases, all of them in foreign countries. Corbett's paper, published in 1925, is not included in Kearney's review. Kearney's grouping and the modified Marchand theory follow:

"Origin: Orbital teratomata may be grouped, representing all the stages from the mixed tumor to the diplogenetic structures, as follows: (1) The fetus is fastened by its pedicle in the orbit. (2) Parts of the body of a fetus hang from the orbit. (3) A formless mass hangs from the orbit shown histologically to be derived from all three primitive layers. (4) A tumor mass in the orbit shown microscopically to be composed of different parts, cysts, bones, etc., having the characteristics of a mixed tumor and traceable to two primitive embryonic layers."

The modified Marchand theory, as given by von Hippel, best explains the phenomenon: "In the beginning of the development of the embryo, one blastomere comes to lie on the faster growing organism and remains dormant to develop at a later time, or it begins to develop at once in the early embryonic life. Such cases, where they are not far removed by cleavage from the original ovum, are capable of developing complete organisms. The greater the number of divisions of the original cell before such a blastomere is segregated, the less potent it is of development. So we have such cells developing complete organisms or only parts thereof, or giving rise to more embryonic layers accordingly as they are near the first cleavage or distant from it."

The Eyeball

Microphthalmos and apparent anophthalmos are the result of failure of the margins of the ocular vesicles to unite. This union is prevented because of obstruction by a process of mesoderm. Rotation ensues and the margins grow faultily—either into the interior of the eye or more often toward the outside. If the latter is the case, a pocket containing retinal tissue is formed at the lower side of the eyeball. The eyeball then may remain quite small, while the sac develops to a considerable size. This is the congenital cyst of the lower lid previously mentioned, filled with serous fluid, lined with retinal tissue, and connected with the rudimentary eyeball.

Valkanyi[22] reports a case of bilateral microanophthalmia in a male child, weight 3,600 grams, with spina bifida occulta, who died on the sixteenth day after birth. The eyes seemed to

be absent, but they proved to be fourth-grade anophthalmia (in Seefelder's sense). The author believes micro-anophthalmia to be the better term. The dimension of the rudiment of the one eyeball was about 3 mm., that of the other 9 mm. The cornea and the lens were absent in both, but retinal elements were demonstrable.

Derkac[23] describes a case of anophthalmos with orbitopalpebral cyst of the lower lid in a female infant, aged three weeks. The lower lids of both eyes were markedly edematous in appearance, being bulged outward by a transparent fluctuating cyst. Absence of bulbi in both eyes was noted, and the connective-tissue sac was drawn backward in a funnel-shaped manner. The connective tissue was hypertrophied. Illumination with the Sach's lamp showed the presence in the left cyst of a bean-sized structure. The content of the cyst was an albuminoid (16.31 per cent), yellowish fluid, blood-streaked in its lower part.

Gallemagerts[24] found an instance of familial anophthalmos in a group of three children whose mother had left microphthalmia. The oldest child's eyes were normal. In the second child, the right eye was very small and microphthalmic with a porcelainlike cornea, and the left eye showed no visible signs of an eyeball. The orbit was very much depressed, and the conjunctival sac scarcely indicated. The third child, who died at the age of three months, had pronounced anophthalmia.

In 1899, van Duyse published reports of a number of cases, the study of which shows that the anophthalmia is only apparent, there usually being a rudimentary microphthalmic eye with a cornea and a vestige of the crystalline lens. Sometimes also the rudimentary eye is represented by a collection of pigment cells enclosed in a fibrous capsule.

Since van Duyse's report, Cechetto published two cases—two children in the same family; MacMillan (1921) observed four cases in the same family; and Ourgaud (1922) described one case without autopsy.

Two hypotheses are admissible regarding the anomaly: (1) The ocular vesicle reaches a certain stage of development and then undergoes degeneration as the result of a pathologic process. This degeneration may be present in different degrees, which may take place at various stages of development, and thus produce the types of microphthalmia or anophthalmia which have been observed. (2) The ocular vesicle fails to develop, the bud disappearing on the first day (as observed by Hess in a chicken embryo of 120 hours) without leaving any trace, resulting in the total absence of any vestige of ocular formation, as in the author's case.

The action of toxins causes deviations and proliferations or phlegmasia with atrophy and regression of the organ or part of the organ. Syphilis or tuberculosis may be the active agent. According to the author's observations in other cases of microphthalmia, syphilis plays an important rôle.

Hoffmann[25] gives a very interesting description of this variation in his case and agrees with von Hippel and others that there is some genetic relationship between these bulbital cysts and coloboma, but their relationship is only genetic. In coloboma the retinal margins meet, while in these cysts they do not. Von Hippel's description of the phenomenon as the result of late union, which causes the outer fold to become distended and the inner one to remain in the neck of the cyst, would make it an intermediate stage between ectatic coloboma and orbital cyst.

Langon[26] reports on two cases of bilateral anophthalmia in the same family, the parents being blood relatives. In the one case neither the optic nerve nor the orbit had developed.

Albinism

Albinos do not have any physiologic pigment. The hair is yellowish white and the eyelashes and eyebrows are white. The pupil is bright red and the iris gray, except by transmitted light, when it is red. The fundus is almost white, and the retinal and choroidal vessels can be distinctly seen upon it. The papilla is dark and grayish red. The pigmentiferous cells of the uvea and retina are present, but contain no pigment. Photophobia is bothersome, and vision is better at dusk; myopia and strabismus are common; nystagmus is usually associated; and vision is subnormal. There are all kinds of transitional forms of deficiency of pigmentation ranging from true albinism to normal. There are semi-albinos with large nonpigmented areas alternating with islands of normal pigmentation in the fundus, especially so in infants and children. The albinotic areas are more likely to be located in the periphery of the fundus. There is an inheritance and consanguinity factor in albinism, and there may be multiple symptoms, as reported in a case by Marin-Amat.

Other Anomalies

Cyclopia is a rare congenital condition. Two very good descriptions of it are found in papers by Humphrey and Castaldi. Humphrey's paper is a detailed anatomical report, while Castaldi's is more general, and reviews the theories

involved. The latter paper is most interesting, and discusses the genesis of cyclopia.

Congenital word blindness properly belongs in the field of neurology and psychiatry, and no further reference to it will be made, except to mention the work and writings of Orton, McCready, and Minogue.

Color blindness may be congenital or acquired. The cause of the congenital condition (Daltonism) is not understood. It is not dependent upon disease. It may be total or partial, the latter being frequent. The commonest affection is weakness of color sense without complete blindness for any one color. There are many transition forms between normal color sense and complete color blindness. The Young-Helmholtz theory of color perception probably best explains congenital color blindness. Sensation deficiency of one or more of the primary colors would cause an endless variety of transition forms.

Although tower skull is not truly a congenital anomaly, the setting for this dystrophy and its ocular symptomatology is properly regarded as congenital.

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DEVELOPMENTAL DEFECTS OF THE INTERNAL STRUCTURES OF THE EYE

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It might be argued that the subject at hand is of theoretic rather than practical interest and therefore unsuitable for a meeting of this kind. From the standpoint of etiology, this is probably true; from the standpoint of clinical ophthalmology, however, it is far from true, and it is chiefly for this reason that the subject is presented.

While the literature is not lacking in individual case reports of these various conditions, treatises dealing with the subject as a whole are lacking, especially in this country. Barker, rather scathingly, calls attention to the lack of interest displayed by American clinicians in the stupendous advances in our knowledge of heredity, and the part played by American biologists in these advances. He gives a number of reasons for this apathy. His statement that "studies of gene physiology and pathology are destined to play a very important rôle in medicine" is undoubtedly true.

A study of the etiology of these various affections furnishes interesting speculation. In a recent examination of 255 blind persons, Thompson found 65 cases due to congenital causes. A number of others were probably developmental or hereditary in nature.

There are two main theories as to the origin of these affections, the toxic and the developmental. The toxic theory is the older, and was originated by Horner, who attributed these defects to some noxious influence. This theory was supported by von Hippel's experiments in the production of cataract by the roentgen ray. Von Hippel considered this a direct phototoxic action on the fetal eye. The developmental theory was advanced by Hess who looked on these conditions as developmental defects. At the time of the rediscovery of the Mendelian theory, this hypothesis crowded the toxic theory into the background and, through the work of von Hippel in 1903, the teaching of eye anomalies entered a new phase.

Experimental teratology has shown that various things can produce these deformities, such as salt solutions of different strength, trauma, concussion, pressure, temperature variations, and chemical solutions. The fully developed eye may

undergo various changes in intra-uterine life, many of which are so manifestly inflammatory that they must be regarded as due to fetal disease. The border line between developmental anomalies and fetal-disease affections is by no means sharp; indeed, fetal disease may cause these anomalies.

Certain cases are undoubtedly due to congenital disease, such as total staphyloma of the cornea, adherent leukoma, internal ulcer of the cornea, and congenital hydrophthalmos. These eyes exhibit the same changes, so far as can be shown anatomically, as are produced by disease after birth. In these cases we may admit the same cause, that is the influence of pathogenic microörganisms. The infection may be exogenous or endogenous. Von Hippel considers possible the transmission of these organisms to the embryo. How far this etiology should be considered is determined by the individual deformity. A general disease is not necessary for infection of the fetus through the mother. Disease of the uterine mucous membrane or the placenta can suffice. Nor need we suppose direct transmission of bacteria. Diffusion of chemically different substances may come into the question, especially in the young and delicate fetus.

One must also consider the possibility of the products of fetal disease hindering development at a later period, as we have no reason to suppose that fetal disease cannot arise very early. One must not for this reason drag the idea of inflammation into the foreground. "Inflammation," says Marchand, "cannot account for the very early embryonal developmental changes, for this would presume certain peculiarities and constituent parts of the tissue which the embryo does not offer." This is certainly correct anatomically. If we speak of disease in general, however, and lay stress on an external, in a certain measure accidental, injury affecting the embryo, then we must presume that the cells themselves, in some unknown manner, will react to the irritant. Thus could arrest in growth or atypical development be partly explained. Through disease, for example, failure in closure of the fetal cleft might occur. Just as in extra-uterine life, disease processes arising during fetal life could recede and leave no evidence except those which might later be regarded as anomalies of development. For this reason the lack of anatomically proved residuals in deformed eyes is not striking proof against the formation of the anomaly through fetal disease. The same eye can probably be affected at different times in its development. Certain changes, manifestly inflammatory, in the tunics of colobomatous eyes must be of later origin than the coloboma itself.

Coarse trauma can at most give rise to isolated defects, whereas long-continued pressure undoubtedly plays an important rôle. Abnormal positions of the amnion here come into the question. Van Duyse ascribes polycoria, aniridia, atypical iris coloboma, corectopia, and lens ectopia to developmental disturbances which have some pathology of the amnion as their basis.

The pure acceptance of anomalies as of germ formation, as Leber emphasizes, does not explain deficiency of one part of the eye while the remainder is normal.

Of great interest is the appearance of congenital eye defects in animals whose parents have had experimentally produced eye affections. Still more extraordinary are the eye conditions which Brown-Séquard obtained in the progeny of three guinea pigs whose restiform bodies he had removed. They exhibited corneal, lens, and vitreous opacities, and often a gradual atrophy of the whole globe. The explanation of this is still debatable. The possibility that inbreeding plays a causal rôle must be considered. The injurious influences of blood marriages are so certain as to make one dubious as to the significance of this instance of true deformity. Laquer considers consanguinity universally accepted in microphthalmos and coloboma of the macula.

In many deformities, hereditary transmission is practically excluded. Persons with bilateral anophthalmos or cyclopia will in general not have progeny. So-called arrest of development may arise from exogenous or endogenous causes. In such cases the defect resembles some developmental phase. The only deformity which often appears in subsequent generations is aniridia. There are few cases of direct transmission of microphthalmos and anophthalmos. Numerous, on the other hand, are the cases of cataract, which, however, we might number among the disease conditions. The direct transmission of coloboma is by no means common.

It has also been accepted that eye deformities may be due to secondary changes which have their cause in a primary developmental disturbance of the brain. This is based on the fact that the primitive nerve and retina are outpouchings of the brain and the stalk of the primary optic vesicle is directly connected with the cavity of the brain. Also, as noted by Kundrat, there is some microcephaly in microphthalmos. The question arises whether the brain and the eye affections have a common cause. Cer-

tain cases speak for this. There are observations on record of chicken embryos in which, in spite of imperfect development of the brain, the eye had suffered no disturbance; moreover, one case of high-grade cyclopia of the brain and nose showed normal eyes. Here the developmental disturbance affected the brain very early without the eye showing abnormal development. A reciprocal influence is therefore not conclusive. In anencephaly, the nerve fibers in the optic nerve and retina fail and at last even the ganglion cells. In anophthalmos the whole optic pathway fails by becoming markedly attenuated. These phenomena may without difficulty, however, be shown as secondary degenerations. That there is a direct trophic dependence of the eye on the brain is conceivable only in the earliest states, as shown in the development of the eyes in anencephaly.

These various anomalies will be taken up more or less systematically and emphasized according to their clinical importance.

The Iris

Persistent pupillary membrane is the most common iris anomaly. Statistics as to its occurrence vary considerably for obvious reasons. It is distinguished from posterior synechia by its origin from the anterior surface of the iris, usually in the region of the smaller circle, and never from the pupillary margin. The movements of the iris are usually not affected, and the lens is generally normal. These membranes may stretch across the pupil, run tangentially to it, hang free at one end, or form a loop in the pupillary space. They may, in rare instances, be attached to the lens or to the cornea. A number of fibers may unite and form a plaque in the pupillary region attached or unattached to the lens. These membranes do not usually affect vision, except those of plaque formation, and these may require operation. Those going to the cornea can probably arise either as a pure malformation or from perforation of a corneal ulcer. The ordinary types are probably malformations.

Aniridia is a condition of apparently complete absence of the iris. As a rule, some iris is present but escapes detection clinically. This defect is almost always bilateral, and might be looked upon as a total coloboma of the iris. The tendency of aniridia to glaucoma must be kept in mind. It is interesting to note that eserin reduces the tension of these eyes. The influence of heredity in aniridia is most striking, numerous instances being recorded. Aniridia is undoubtedly a developmental defect.

The pupil may exhibit a number of abnormalities. Polycoria is a condition characterized by numerous openings in the iris, only one of which is the true pupil and has a sphincter muscle. Corectopia, or eccentric pupil, is occasionally seen. It may lie very close to the corneal margin. The most common type is associated with ectopia lentis. Von Hippel believes it to be due to localized fetal iris inflammation.

Coloboma of the iris is usually downward, or downward and inward; if in any other position, it is termed atypical. These types may involve a large part of the iris. The typical variety is probably developmental in origin. The reaction of the iris to light is quite variable, and depends to a great extent upon the size of the defect and the condition of the sphincter.

Heterochromia iridis is a difference in color of the two irides. Usually one eye is brown and the other blue or gray. The whole iris is not always involved; only a sector may be affected. Heterochromia occurs in two forms, one being an anomaly and the other a symptom of a definite disease. The latter has been called heterochromic cyclitis. Most writers have noticed the tendency of the lighter eye to disease. Beaumont thinks this should be expected as the iridic pigment has a protective purpose. Cataract is probably the commonest complication.

Congenital cysts of the iris are rare.

Ectropion uveæ is a condition normal to the horse, and consists of masses of pigment at the edge of the pupil. These pigment masses may appear as grape clusters. They are sometimes enormously developed, and may drop off into the anterior chamber. One must be careful not to consider ectropion uveæ as iridic adhesions or postinflammatory pigment deposits.

The Lens

Cataract is the most frequent type of lens anomaly. Congenital cataract may be partial or complete, the former being much more common. The partial are further divided into (a) anterior polar; (b) posterior polar; (c) lamellar; (d) nuclear; (e) dotted. Both developmental and toxic theories are used to explain polar cataract. Pagenstecher's experiments certainly favor the toxic theory. He produced cataract in rabbits by feeding them naphthalin.

Zonular, perinuclear, or lamellar cataract nearly aways affects both eyes, and is stationary as a rule. Inheritance is rather frequent. It is thought to be a nutritional disturbance, and occurs often in children who have had rickets, convulsions, or tetany. Central or nuclear cata-

racts are closely related to the lamellar type. Eyes affected with this kind of cataract frequently show other congenital malformations. Coppock's, discoid, or Nettleship's cataract is a peculiar hereditary familial type. Chance found it in five members of one family. These cataracts are bilateral, symmetrical, and appear stationary. They are disklike and seem to be between the posterior pole and the nucleus. Fusiform, spindle, axial, or coralliform are rare varieties, named on account of their shape or position.

Dotted cataracts are usually found in the periphery and may be bluish in color, whence the name cerulean. They are usually hereditary. Total cataracts may be fluid, soft, or very dense and limelike. These latter are thought to be due to a syphilitic intra-uterine inflammation. Ectopia lentis is a comparatively rare anomaly. It is usually bilateral, and may be familial and hereditary. The lens is usually dislocated upwards and outwards. The suspensory ligament is usually completely absent in the region corresponding to the aphakic area, and defective development of this ligament is probably the cause of the condition.

Lenticonus is an abnormal curvature of the anterior or posterior surface of the lens. It is quite rare, especially the anterior type, though this type might readily be passed by as a pyramidal cataract. Rupture of the posterior capsule, due to increase in the size of the lens or to traction by the hyaloid artery, is given as a cause. Collins suggests that it is due to defective development of the posterior capsule.

Coloboma of the lens nearly always occurs at its lower border. It is usually unilateral, and these lenses may subsequently become dislocated. Coloboma of the zonule of Zinn usually occurs with coloboma of the ciliary body and lens. It is generally triangular, with the base at the ciliary border.

The Vitreous

Coloboma of the vitreous is represented by a cleft which may reach from the papilla to the region of the ciliary body. This cleft is usually filled with vascular connective tissue.

Persistent hyaloid artery may extend from the papilla to the posterior surface of the lens. Various intermediate varieties are found.

The Retina

Coloboma of the retina and choroid are considered together since they are so intimately associated. These colobomata are usually below and extend almost up to the papilla. They may surround the papilla and usually have pigmented edges. The condition is generally bilateral and, when unilateral, the left eye is said to be more often affected than the right. The foveæ may or may not be affected. These eyes are usually considerably myopic. They are very prone to inflammatory changes and, unless examined soon after birth, it is manifestly impossible to decide whether these changes are antenatal or postnatal.

Glioma of the retina, or as Jackson suggests, "retinoblastoma," is said to be congenital in 10 per cent of the cases. It often appears in several children of the same family. The diagnosis is not always easy. So-called pseudoglioma most frequently causes error. Cyst of the retina is very rare. It sometimes occurs with microphthalmos. Retinitis pigmentosa, or pigmentary degeneration of the retina, is either congenital or begins early in childhood, although the pigmentation is probably never present at birth. It is hereditary, and has been attributed to consanguinity. It is classed as an abiotrophy by Collins. Probably a number of cases of syphilitic retinochoroiditis are improperly diagnosed retinitis pigmentosa. The differential diagnosis may be quite difficult.

Medullated nerve fibers have been regarded as congenital, though, as Fuchs states, they are really postnatal. They may be separated from the disk, though they are usually at the upper and lower borders. Congenital detachment of the retina has been described. It is thought to be luetic in origin. Congenital tortuosity of the retinal vessels may be unilateral or bilateral. It is generally associated with hyperopia.

Cilioretinal vessels are relatively common. They are usually arteries, and may be of importance in obstruction of the central artery. Opticociliary vessels are rare. They are usually veins. Coloboma of the macula is rare and is usually unilateral. Vision may be normal or greatly reduced.

The Choroid

Fuchs' coloboma, inferior crescent, or conus nach unten, is a small crescentic defect of the choroid at the lower border of the disk, not unlike a myopic crescent except in position. These eyes are often amblyopic and squint inward. An appearance of cupping may be given by these crescents, especially those of the scleral variety, so that glaucoma may be incorrectly diagnosed, or even optic atrophy. The amblyopia furthers such an error.

The Optic Nerve

Aplasia of the retina and optic nerve is seen in anencephaly, cyclopia, and in some cases of hydrocephalus. Absence of the nerve is also noted in anophthalmos and microphthalmos. Petren sought to explain this as a "system defect" affecting the neurons of a particular order.

Hole in the disk, large disk, and coloboma of the nerve head are rare anomalies.

Pseudoneuritis is seen fairly frequently. Its importance has been emphasized in a previous paper.

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CHRONIC ULCER OF THE STOMACH AND ITS TREATMENT*

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The manifestations of chronic ulcers of the stomach are most varied. They may heal spontaneously, they may heal under medical treatment, they may be responsible for chronic indigestion and disability of varying degree, and they may cause the death of the patient by hemorrhage, perforation, obstruction, or malignant degeneration. With such possibilities in their unchecked course the cure of such a disease is an achievement of which the medical profession may well be proud.

Acute ulcers of the stomach are probably common. Chronic ulcers are known to be rare. The cause of the failure of an acute ulcer to heal and of its progress to a chronic form is not established. The process of healing has been studied by Mann in experimentally produced ulcer and also by Caylor in resected specimens. They show that attempts at healing are constantly taking place; buds of granulation tissue develop in the base of the ulcer, and whether the ulcer is large or small, and whatever constitutes its base, healing depends on the development of such granulation buds. The frequent failure of long-standing ulcers to heal is explained by the presence of such fibrotic changes in the base that no granulation tissue buds can be produced. The chief factor in healing, therefore, is the formation in the base of the ulcer of a plug of granulation tissue with an epithelial layer of single flat cells growing out, secondarily, from the margin of the lesion to cover the granulation tissue. The alternating character of the activities of ulcer of the stomach, if one may judge by the intermittence of the symptoms, may be due to the loss of this thin layer of epithelial tissue by trauma or cytolysis. Mann believes this and also believes that the breaking off of these granulation buds explains the usual type of hemorrhage seen. Morton has shown by a series of experiments that the rapidity and the completeness of healing vary in different parts of the stomach. For instance, defects produced in the mucosa at various sites show that healing is most rapid along the greater curvature and most retarded on or near the lesser curvature. These experiments demonstrate one reason why chronic ulcers are usually found in the neighborhood of the lesser curvature of the stomach. Why there is such a high (over 90 per cent) incidence of ulceration along the lesser curve is conjectural, but the fact that the lines of force and consequently the greatest trauma are along the lesser curve offers a possible explanation.

While it is true that gastric ulcers in the early stage may and do heal, it is also true that they may progress beyond the point where it is possible for healing to take place spontaneously or under our present methods of nonsurgical treatment. The disease has then become chronic, and its permanent cure can usually be brought about only by surgical means. Gastric ulcers, as seen by the surgeon, are usually of this type: the ulcer is chronic, the known methods of nonsurgical treatment have failed, and complications have frequently ensued.

Chronic gastric ulcer is a disease accompanied by a group of symptoms which are usually sufficient for a positive clinical diagnosis, the symptoms being characterized by their intermittency and their relation to ingestion of food. The disease, as I have stated, is relatively rare, approximately one gastric ulcer being met with to every ten chronic duodenal ulcers. The ratio to gall-bladder disease is about as 1 to 8.

From a surgical standpoint, the aspects of gastric ulcer of immediate interest are: first, the diagnosis; second, the complications of the disease; and third, the surgical management.

Diagnosis

A smaller margin of error occurs in the detection of a chronic gastric ulcer when all available means of diagnosis have been employed than in any other field. This accuracy in diagnosis, which is attributable to the recognition of the clinical manifestations of the lesion and its portrayal by the roentgen ray, constitutes one of the great advances of the last decade. The mere discovery of a method of making an ulcer of the stomach visible has greatly clarified our knowledge of the disease; and this method of depicting it is so precise that it is true that

* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 5, 1927.

lesions which are definitely portrayed by the roentgen ray may be difficult to demonstrate at the operating table. Any method which will visually demonstrate 96 per cent of intragastric lesions is extraordinarily efficient. The usual sequence of events in the course of gastric ulcer is that the symptoms become progressively worse after the lesion has been established, and the frequency of complications shows clearly that the condition is serious and a real menace to the patient. When the roentgen ray shows a lesion in the stomach, therefore, regardless of the severity or character of the symptoms and the degree of the patient's disability at the time, the normal course of gastric ulcer should be kept in mind and also the all-important fact that there are three out of four chances that the lesion is malignant.

Indications for Treatment

The common complications of gastric ulcer, namely, hemorrhage, obstruction, perforation, malignant degeneration, and hour-glass deformity, in the aggregate are met with in 67 per cent of gastric ulcers seen at operation. There is no disagreement as to the indications for treatment of these complications: surgery affords the most effective means of dealing with them. It is only under the most exceptional circumstances that operation is contraindicated. In chronic gastric ulcer, prolonged medical treatment is justified only when operative treatment is absolutely contraindicated because of the age or condition of the patient. As a temporary expedient, however, medical treatment may not only be justifiable, but of marked value in improving the condition of those patients for whom surgical measures become unduly hazardous because of repeated hemorrhages, extensive subacute local inflammatory changes, or toxemia from gastric retention. The more familiar we become with the uninterrupted course of chronic gastric ulcer, which is one of progressive disability, the more certain we become that prolonged medical treatment is never justifiable if the patient is fit for operation.

Complications

Hemorrhage. Gross hemorrhage is a complication of chronic gastric ulcer in about 25 per cent of the cases. Operation for hemorrhage *per se* is practically never warranted. If repeated hemorrhages occur at short intervals, operation, preceded by transfusion, is safer than any attempt to control the bleeding by other methods. The indications for operation in gastric ulcer complicated by hemorrhage are positive. The possibility of malignant change having occurred in the ulcer is greater in the presence of hemorrhage, and the danger of serious or fatal consequences of hemorrhage in benign lesions is greater than the risk of operation; so that, quite apart from the other symptoms of the ulcer, operation is warranted. The optimal time for operating when hemorrhage from an ulcer has occurred is after the immediate effects of the hemorrhage have disappeared. There are definite surgical indications in such cases. In the first place, the ulcer should, if feasible, be removed or destroyed by the cautery. In the second place, the entire stomach and duodenum, the spleen, the liver, the gall bladder, and the appendix should be most carefully examined so that any other lesion or condition which may have been partially or entirely responsible for the bleeding may not be overlooked and thus prejudice the result of the operation. It is not always possible or advisable, of course, to remove the ulcer, and an indirect operation alone may be feasible. Such indirect operations; namely, gastro-enterostomy or gastrojejunostomy, afford considerable protection against further hemorrhage, and are sufficient in about 50 per cent of the cases to permit the ulcer to heal.

Obstruction. In about 15 per cent of gastric ulcers treated surgically, obstruction or retention in some degree can be demonstrated. The degree of obstruction may vary from temporary interference with motility, detectable only by fluoroscopic examination and not evident to the patient, to almost complete obstruction from lesions situated at or near the outlet of the stomach. The situation of the ulcer does not necessarily, however, determine the degree of obstruction present, for most marked retention may be met with when the pylorus is uninvolved and the ulcer situated at some distance from it. The most important clinical fact in connection with obstruction is that occasionally the complication may be associated with a toxemia which can be accurately recognized and measured and adequately controlled. The recognition of this menace has practically eliminated the cases of severe or even fatal toxemia which used to be met with occasionally. A fixed plan of operation must be avoided in these cases of high-grade obstruction since some patients are in such poor condition that the primary purpose of the operation should be to relieve the obstruction and the secondary purpose to remove the lesion when the patient's condition permits.

Perforation. In cases of acute perforation of gastric ulcer, the immediate necessity is to save the patient's life. Any method of closure of the perforation is satisfactory, either by suture, by a plug of omentum, or by resection of the

ulcer. The question of combining gastro-enterostomy with the closure of the perforation rests chiefly on the condition of the patient and the time which has elapsed since the perforation occurred.

In subacute perforations, that is, when the perforation is protected but evidence of recent exacerbation of the infection is obvious, it is usually inadvisable, if the process is extensive, to carry out a radical procedure. When the character and severity of the pain indicate subacute perforation, it is preferable to keep the patient in bed and the stomach as completely at rest as possible to permit the inflammatory process to subside so far as may be. The change which will take place in the tissues under such management is extraordinary, and will permit a radical operation to be carried out with much greater safety. In cases of chronic perforation one should follow the principle, whenever possible, of removing the ulcer.

Malignant Degeneration. No one has ever doubted that there is a relationship between ulcer of the stomach and cancer. There are still two unsettled questions: first, the frequency with which lesions exhibiting all gross characteristics (clinical, roentgenologic, surgical, and pathologic) of ulcer exhibit microscopic evidence of cancer; second, whether, in those ulcers which are clearly malignant, the malignancy has been primary or secondary. These questions can be settled only when the life history of cancer is understood. Much of the confusion regarding this subject is due to the fact that studies on the frequency with which ulcers become cancerous are made for the most part on specimens of advanced cancer of the stomach in which it is usually impossible to determine the character of the original lesion. If such investigations dealt only with gastric ulcers, greater progress would be made toward the solution of the problem. Fortunately, this very uncertainty as to the true relationship between ulcer and cancer makes the indications for treatment more certain. If it can be proved that ulcers in which malignant changes can be demonstrated are malignant from their inception, and there is no way of determining clinically whether they are malignant, removal of the lesion when discovered is clearly indicated from the standpoint of safety alone. The experienced clinician may be able to say with considerable confidence that a given ulcer of the stomach is malignant, but never with great confidence that it is benign. The possibility of a gastric lesion being malignant, regardless of whether it is a malignant ulcer or an ulcerating carcinoma, is more than adequate justification for radical treatment.

Hourglass Contraction. Hourglass contraction is encountered in about 8 per cent of gastric ulcers, and it is more frequently seen in females (the proportion being about 3 to 1). The type of ulcer found in the hourglass stomach shows some characteristic features. It apparently possesses a high degree of healing power, as the ulcers are rarely large and quite often one finds evidence of other ulcers in other parts of the stomach which have healed. Another interesting fact is that some surgeons of large experience believe that ulcers which result in marked hourglass contraction never become malignant and, therefore, an indirect operation will suffice. Of such indirect operations, gastrogastrostomy is the best type since it relieves the mechanical result of the hourglass, namely, obstruction. I have never been satisfied, however, that it is safe to follow this practice as a routine, and I prefer to remove the ulcer and the constricted portion of the stomach if such procedure is reasonably safe. As a result, some type of resection, either resection in continuity or with closure of the distal stump, is usually performed. One of the interesting deformities of gastric ulcer is a false diverticulum which may appear on fluoroscopic examination to be a true diverticulum. I have met with striking examples of this deformity.

Operative Procedures

When the patient suffering from chronic gastric ulcer has, by adequate preparation, been placed in the most favorable condition for safety of operation, the type of operation is to be decided on. As a satisfactory basis for the treatment of gastric ulcer one may assume that the best choice is that procedure which includes, if possible, the removal of the lesion.

The method of excision depends on the size and situation of the lesion and the complications associated with it. It would seem reasonable that the more simply and safely the ulcer crater can be removed, the better it is for the patient. I know of no more satisfactory method than the use of the cautery. In the Mayo Clinic more than 500 operations of this type have been performed. Not only is the mortality rate following this operation lower than after any other procedure for gastric ulcer, but the end results in the cases that we have selected for the operation are as good as in any type of operation with which we are familiar. The all-important point in the successful use of the cautery, when the stomach is not first opened to visualize the lesion, is that the crater should be accurately located

and the gastric wall mobilized so that the cautery can be carried directly through the center of the crater and the cauterization continued until the crater is entirely excised. This leaves a defect to be closed no larger than the actual lesion and is in marked contrast to the large defect left when the ulcer is excised in the usual wedge excision.

For larger ulcers, local excision may be so extensive that partial gastrectomy is preferable. Of the types of partial gastrectomy, the Billroth I and its modifications are satisfactory when the lesion is near the pyloric end of the stomach. The well-known modifications of the Billroth I are the Schoemaker, the C. H. Mayo, the von Haberer, the Finney, the Horsley, and so forth. The segmental resection for lesions in the body of the stomach is satisfactory, both for immediate and late results, although the function of the stomach is not quite so good as in other types of resection. The Billroth II is most satisfactory in principle, but, since the introduction of the method, ascribed to Polya, of uniting the end of the stomach to the side of the jejunum, the time saved and the fact that just as good function follows the operation give preference to the latter procedure. The end-to-side gastro-enteric anastomosis may be made posterior to the colon and transverse mesocolon in operations of moderate extent, but when gastrectomy is very extensive it is safer to make the anastomosis in front of the colon.

As I have already observed, it is not always possible to carry out radical treatment of ulcer. In about 25 per cent of the cases of gastric ulcer operated on in the Clinic we find it inadvisable to remove the ulcer. In such cases either a posterior or anterior gastro-enterostomy can be expected to relieve the symptoms in 50 per cent of the cases. If the lesion is in the cardiac end of the stomach, the best chance of cure is afforded by placing the stomach completely at rest. This is done by means of the jejunostomy tube. Feeding through the tube is continued until healing is as advanced as can be accomplished by such rest. Later, sufficient healing may permit of satisfactory mobilization of the stomach and excision of the lesion. A secondary operation may then be carried out with fair prospects of excising the contracted and at least partially healed lesion and adding gastro-enterostomy.

The essentials, therefore, in the surgical management of gastric ulcer are: first, that the lesion should be removed by the simplest and safest method, and adequate drainage of the stomach established; second, that in larger lesions partial gastrectomy of suitable type should be performed; and, finally, that the value of indirect operations for lesions which can be removed only with extreme difficulty should not be overlooked.

ABSTRACT OF DISCUSSION

Lawrence Litchfield, M.D. (Pittsburgh, Pa.): "Every patient, before submitting to surgical treatment for gastric ulcer, should have as thorough a course of medical treatment as his means will permit."—*William J. Mayo.*

It has been my experience that whatever medical treatment is adopted and conscientiously followed, the patient usually is benefited, and often—at least temporarily—he seems to be cured; but unless that patient's weight ratio is permanently altered and his habit of life radically changed, the symptoms sooner or later return, and often another method of medical treatment is resorted to, or, the patient appeals to the surgeon, who may attribute the gastric symptoms to a diseased appendix or gall bladder, and by appropriate treatment the symptoms may once more be relieved. But again they are apt to return, and possibly a new surgeon, or a new aggregate of internists, proceed to another cure.

It has been stated that less than two per cent of all gastric tumors are benign, and even these may cause retention, hemorrhage, etc. In consideration of the large percentage of malignant cases, an early resort to exploratory gastrotomy is justified, if not imperative, particularly when the patient is forty years old, or more. Exploratory operation should not be delayed until the patient shows loss of weight. Some years ago loss of weight following gastric symptoms of months' duration was held to be an indication for operation. Now I believe it to be an indication of malignant disease, probably too far advanced for a good prognosis, even after operation. On the other hand, I believe that a partial gastrectomy under the most favorable conditions as to the location, the absence of any discoverable metastases, etc., may give a permanent cure of malignancy, although probably this is rare. Most meticulous study is still needed to diagnose gastric lesions, and to differentiate them from duodenal lesions. Gastric lesions, of course, are much more serious; still they are too often treated as though it did not make much difference, as a gastrojejunostomy would relieve the symptoms in any case.

I do not know whether gastric-ulcer symptoms are often due to a neurosis and associated with abnormal gain of weight, but I do know that duodenal-ulcer symptoms are often entirely controlled by weight reduction, a properly balanced diet, and proper exercise. The Sippy treatment, the Bellevue Hospital treatment consisting of olive oil by mouth and dextrose and water by rectum, Dr. Smithies' treatment, and the Einhorn jejunal feeding—each of these has many cures to its credit, but some cases apparently cannot be cured by any one of these.

The question of the relation of alkalies to hyperchlorhydria is very interesting; also the fact that the surgeon is frequently unable to find any cause for the positive string test which has been reported to him. I have known a doctor to die of a supposed gastric hemorrhage only a few days after he had been sent home from one of the best hospitals in the country because a prolonged study in that hospital had convinced the surgeon that there could be no ulcer.

Colloidal aluminum hydrate has seemed to be dis-

tinctly helpful in treating some of these patients with symptoms of hyperacidity.

HOLLAND H. DONALDSON, M.D. (Pittsburgh, Pa.): As to the remark of Dr. Mayo, referred to by Dr. Litchfield, Dr. Mayo said, "each patient ought to have at least ten medical cures." The fact that in the Mayo Clinic over 90 per cent of cases can be diagnosed by x-ray is discouraging to us, because we cannot diagnose anything like that number by this method.

Dr. Balfour's statement regarding the relationship between ulcer and malignancy has been the impression at the Mayo Clinic for many years. During the past week a medical man in Pittsburgh, who has a very large practice, asked me for details of an operation for gastric ulcer that I performed many years ago. The patient at the present time is showing some symptoms of gastric malignancy. This physician remarked that if such a sequence is found in this case, it will be the first in his experience.

I am glad that Dr. Balfour emphasized the use of simple operations where they will do the work, as it is very desirable for an authority on the subject to leave this impression. More than one patient has lost his life in the hands of an inexperienced surgeon because the surgeon was trying to do a very complicated operation which was the proper procedure if done by one with experience, but absolutely the wrong method for the individual with small experience.

The use of the cautery is an important advance in the surgical treatment of gastric ulcer. Where it can be applied, it may be used with comparative safety, and it reduces mortality tremendously.

DR. BALFOUR (in closing): There is certainly a neurasthenic type of individual who is prone to develop ulcer. In these cases cure is difficult, and recurrence of ulceration often takes place following operation. Characteristically these patients live in the larger cities under unhygienic conditions. A typical example is the sweatshop worker who gets a minimum of sunshine and works under high pressure. The failure of either medical or surgical means to effect a cure may be attributed in part to such an environment.

In 96 per cent of the cases of lesions of the stomach or duodenum coming to operation, the lesion has been diagnosed with the roentgen ray before operation. It is not known, of course, what percentage of lesions is overlooked in cases in which operation is not performed.

I believe that the figures originally given concerning malignant degeneration in gastric ulcer were too high, and that there are many reasons why the percentage should be lowered, earlier diagnosis probably being the most important. Regardless of how much one may doubt that malignant changes develop frequently in gastric ulcer, no one denies that they occur occasionally.

GOVERNOR SMITH'S MESSAGE

In his annual message to the State Legislature, Governor Smith laid particular stress on the value of public-health work, pointing to some of the achievements in this field during the past ten years, and making certain recommendations for the future. There is no greater State asset than proper attention to the preservation of the public health. By generous appropriations and extension of the work to essential fields not otherwise covered, the general good effect of enlarged activity has been felt throughout the State. Today the range of public-health activity has broadened until it embraces the preparation of antitoxins at the State Laboratory in Albany, rehabilitation of cripples, maternity and infancy care, State aid to rural counties, public-health education, and even the supervision of the oyster beds on Long Island. No small part of its work is devoted to a ceaseless and constant supervision of the water supply for the various municipalities of the State. A part of the duty of the State in the preservation of public health is the suppression of unauthorized practitioners.

Public agitation for drastic amendments to the Medical Practice Act grew out of a conference of the medical societies and leaders in public health called in the executive chamber in 1923, and after a long struggle, amendments to the Medical Practice Act were written into our statute books in 1926. They received nation-wide attention, and were favorably spoken of at national conventions of medical authorities. They are proving effective measures of control. The constantly decreasing death rate is a full and complete reward for the money and effort put into public-health activity.

When our young men were examined for service overseas during the war, we learned of the suprising number of preventable physical defects from which they were suffering. In 1920 the Department of Health established a traveling unit for the examination of apparently healthy children of preschool age. Over 31,000 children have been examined and then followed up by the local authorities. Last year more than 14,000 defects were found in 4,500 children. Growing out of the work done by the Department doctors and nurses for over 13,000 children crippled as a result of infantile paralysis, the State has made a survey of crippled children and undertaken a thorough job. As a result, there is now in effect the Physically Handicapped Children's Law under which Children's Court judges are authorized to issue orders covering the physical care and treatment and the education of physically handicapped children. When such a court order has been approved by the State Commissioner of Health, when it relates to physical care, or the State Commissioner of Education, if relating to education, the expense becomes a charge upon the county or city, which is entitled to a fifty-per-cent reimbursement by the State.

One of the most important factors in health work is the public health nurse. Ten years ago there were less than 500 such nurses in the State outside of New York City. Today there are 1,200. Another important public-health statute enacted in 1921 permits the establishment of county health departments. Our knowledge of preventive medicine has reached the point where, for best results, its administration should be in the hands of a qualified full-time expert in this field. Towns and villages with but few exceptions cannot afford such service. So far, but one county in the State has taken advantage of this law, but others are giving it serious consideration, and it is to be hoped that the time is not far off when local health administration throughout the State may be in the hands of full-time qualified county health officers. New York is a laggard in this respect. It must be borne in mind that for thoroughly effective health work, the State must have the full coöperation of the localities. The counties should do their share. The State stands ready to give financial and other aid, but unless there is a live, local interest in the public-health problem, the desired progress is difficult to make. Within natural limits, public health is purchasable. The history of the last ten years of the State Health Department and its statistics prove the soundness of this theory. —*Health News.*

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Editorials

GROUP COMPETITION

Convention Spotlights has contributed an idea which is well worth applying to medical organization. They say that "competition today is on a different—and higher—plane. In most quarters it has been raised from the level of a 'survival of the slickest.'" They quote Merle Thorpe, editor of *Nation's Business,* who points out that a war of materials is on: that oil, coal, and gas are fighting for the job of heating the country; that electric refrigeration and ice are both after the job of cooling us; that wood and sheet steel are at grips in the office-furniture field; and that lumber and lumber substitutes are competing fiercely for command of the structural trades. "This competition has forced the individual to line up behind his industry. It is a new competition, between industries instead of individuals.....It is changing swiftly the complexion of every man's business."

The analogy to the medical profession scarce needs to be drawn. The mushroom growth of pseudomedical cults which have fooled so many of the people within recent times is apparently to be combated only through organization of qualified medical practitioners. Against these cults the individual is helpless, and for the individual to enjoy the advantages resulting from the fight conducted by organized medicine while taking no part in the campaign of education is a course ethically open to question. Every eligible physician should be a member of his county, state, and national medical associations. All should join unanimously in the campaign to "sell" to the people scientific care of their health by properly educated physicians.

A statewide effort is now being made to bring into the ranks of organized medicine all the Pennsylvania physicians who are acceptable to their confreres of the various county societies. They owe it to themselves to become a part of the organized health army of the Union. Only by lining up behind their profession can their fullest influence for good be exercised to the widest extent. The officers and members of the county societies are urged to present this view to physicians who are eligible for membership, and those eligible nonmembers who may read this column are cordially invited to add their strength to ours.

EMERITUS PROFESSORS AND HOSPITAL PRIVILEGES

It is the custom of certain medical schools to retire the personnel of the major faculty at a specified age. Much may be said for and against this procedure. On the other hand, when a member of a faculty is not keeping up-to-date with the duties and activities of his department, irrespective of his age he should be duly advised of his shortcomings by the board of trustees, and, failing to maintain proper standards, should be discontinued. There is no argument against this procedure, as it is sane and sound, and is for the best interests of the institution.

The purport of this editorial is especially to call attention to the privileges that should be accorded the retired member of the faculty by the teaching hospital of the medical school with which he was associated. It is seldom that he will discontinue practice (if he belonged to the clinical group). Some medical schools will extend hospital privileges to their emeritus professors, while others will not grant any hospital privileges at all.

It is most deplorable that an emeritus professor should be denied hospital privileges by the institution he has served faithfully. It means that he must seek elsewhere for the courtesy of

hospitalization of his private patients, and it would seem that this principle is manifestly unfair to him. We would urge that all medical schools adopt a rule that their emeritus professors be privileged to continue the admission of their private patients to the hospitals connected with the medical school.

THE PLACE OF WOMAN IN MEDICINE

When the Medical Society of the State of Pennsylvania was organized eighty years ago there was no place in medicine for woman—woman's place was in the home, and woe betide her who had no home! In that eighty years has been waged an epoch-making fight for the right to be educated and to practice on an equal basis with men. Forty years ago the last medical association capitulated and admitted women to membership. This was a revolutionary step, but it has not been attended by the dire consequences predicted for it at the time. Women are still women in spite of their emancipation!

Lately there have been several articles published in lay magazines discussing the difficulties still in the way of a woman who chooses a medical career. One article made a statement to the effect that the attitude of the public and the profession towards women physicians is ruining the lives of large numbers of medical students, and that the young woman doctor has before her a twenty-five-year fight for recognition. One enterprising woman's publication submitted this question to another well-known woman physician, who stated that she had never experienced the discourtesy or antagonism described by the first writer. These articles, according to the editor, have "created great interest and excitement," and numerous contributions are still to be published. Even the *Saturday Evening Post* has accorded the matter editorial discussion.

The subject seems to be such a live one at the present time that we have succumbed to the temptation to investigate it. Letters were sent to deans of medical colleges and to various women physicians, and when possible, personal interviews were secured with these physicians as well as with a number of lay people. The replies make interesting reading. They may be summarized about as follows:

A woman in medicine (as well as in most other business and professional lines) must be more competent than a man in the same occupation if she is to obtain equal recognition.

In coëducational medical schools, the opposition to women students has very largely disappeared, although there are still some in which women are not accorded equal privileges and opportunities. Some women students find loyal friends among their masculine classmates, while others are ignored or even tormented. It is largely a question of personality. It is said that the type of women entering medical schools is changing, as is also the type of men. Of interest also is the statement that women, on the average, are the better students, but do not stand up so well as men after graduation.

The attitude of men practitioners has become widely tolerant, and is usually helpful. An agreeable woman physician will be received by her professional brothers with courtesy and will be accorded their coöperation. Here, again, it is a question of her personality. It is unfortunate, however, that the majority of hospitals managed by men will not grant women staff appointments.

The effort on the part of some of the pioneer women to induce women physicians to consult only with others of their own sex has, in some cases, reacted to the opposite extreme, so that there are some women who refuse to consult with any but men physicians, claiming that they can get along better with them.

The attitude of the laity towards women is rather curious. Certain ardent feminists are accused of refusing to patronize their own sex, and it is said that lay women often find it difficult to believe that a woman has actually acquired the knowledge and skill which will enable her to practice medicine scientifically. The attitude encountered in our inquiries has usually been expressed in the statement, "I never thought much about it. I see no reason why I should not go to a capable woman physician, but....." Habit takes the average layman to a man physician. If anything happens to break the chain of habit, the patient may become equally attached to a woman physician. Again, it is a matter of competence and of personality. Evidently the former prejudice against women in medicine has very greatly weakened.

The best method of combating such prejudice as remains is unanimously agreed to lie in educating women of a high order who will command respect under all conditions.

Lines of work in which there is a growing demand for women include pathology, bacteriology, roentgenology; industrial medicine, especially in plants employing principally women; schools for women and girls; executive positions in government service, industry, and organizations; hospital administration; many of the specialties, such as obstetrics, pediatrics, and eye, ear, nose, and throat work. General

practice is not especially recommended for women, as it carries with it the necessity for greater strength and ability to endure the hard blows necessarily associated with it than many of the specialties listed above.

All told, the future of women in medicine is encouraging. They have come a long way in a comparatively short time. There is an increasing demand for their services, and a decreasing prejudice against them. There is no doubt that they will eventually find the place in medicine where they may serve best and be most happy.

NO MORE HEROIN

Our readers will recall that, by action of Congress, no more heroin can be made in the United States, nor can any of the drug be imported, so that, after the supply then in the United States is used up, it will no longer be possible to secure this preparation of opium. Druggists state that the supply must now be exhausted, as it is no longer procurable.

Many prescriptions are still being written for heroin, and we are credibly informed that some druggists are substituting two grains of codein sulphate for each grain of heroin, without calling the attention of the physician to the change, while the more considerate druggists are advising physicians, when prescriptions containing heroin are received, that the drug no longer is procurable.

We therefore call the attention of our members to this situation, and advise them to discontinue the prescribing of heroin, bearing in mind codein.

PREVENTIVE PEDIATRICS

In this number of the Journal will be found a symposium on preventive pediatrics which we would advise all of our members to read. We wonder if the physician is keenly alert to the far-reaching effects of preventive pediatrics. Is he observing preventive medicine in his pediatric practice to the extent he should? Is he cognizant of the all-important necessity of intelligently studying the children under his care, and following through with the proper recommendations to the parents or those in charge? Is he applying to his daily practice the essential features given in these papers? Is he using his influence to have the several departments recommended in these papers established in the hospitals with which he is associated?

So important is the necessity of practicing preventive medicine in pediatrics, that we cannot urge too strongly that our members adopt its daily observance.

INTERN TRAINING IN PSYCHIATRY

While it is generally conceded that every possible effort is being made to give to the intern a practical working contact with all the specialties of medicine, a survey would show that these efforts are successful except as they relate to the subject of neuropsychiatry. In larger hospitals, however, as in the Philadelphia General, where adequate facilities are provided for such training, this exception does not hold true.

The present status of intern training in neuropsychiatry resolves itself into a somewhat sketchy state of affairs. There are only a comparatively few large hospitals which provide such a service. The neuropsychiatric hospitals are too few to ensure it. The mental hospitals capable of giving a twelve- or eighteen-months' satisfactory intern training are scarce indeed, while the three-months' service approved by state boards of licensure in our mental hospitals is seldom resorted to by the rank and file of medical interns, and it is most conspicuously shown that the average general hospital makes no special effort to arrange for such training.

The solution of the problem includes several factors. The first is that neuropsychiatric knowledge should be of sufficient importance to the practitioner that a state board of licensure should insist on requisites along these lines before the applicant may appear before the board for examination. Without such a mandatory ruling, students and interns will continue to evade the issue, and the scheme as a whole will fail.

Are the boards warranted in enacting such a drastic ruling? Would hospitals be available for such a training? It would seem so. If the general hospitals would provide ten, fifteen, or twenty beds for neurotics, psychoneurotics, and mild psychotics, subsidiary to the medical service, it would solve the question entirely. Whether or not they see fit to do it is purely within their prerogatives.

Another important avenue of approach requires the coöperation of mental hospitals to the end that they will accept student interns (students who have completed their second- and third-year studies) for a special three-months' period during the college vacation in their medical services. Such a system has many advantages to the student and to the hospital.

Another suggestion is that the general hospital affiliate with its closest mental hospital, so that an intern may receive neuropsychiatric training and yet procure his certificate from the general hospital. Nurses' training schools of such hospitals affiliate with other schools to

ensure registration of their graduates; surely such a medical affiliation would be in line with established policies.

Intern training in neuropsychiatry is equally important with that in other specialties of medicine. No true specialist can deny that this branch is very closely associated with all the specialties, for in fact it is a vital part of internal medicine itself. It sounds like a paradox to hear a physician say he specializes in internal medicine who has had no training in psychiatry, and it is doubly appalling to see one professing to be a neuropsychiatrist who has not had the background of internal medicine and is not concurrently practicing its principles.

A WASTE OF BRAINS

We have dealt, in these columns, several times with the economic waste and with the waste of human health and happiness resulting from a specified age of retirement. That the principle is wrong we are convinced, and that some other plan must be substituted for the present unsatisfactory system of retirements and pensions is evident.

In this connection, the work of Dr. W. A. Newman Dorland, who has recently made an investigation for the Illinois State Welfare Association, is of interest. The average life span has been increased twenty years during the past thirty years, and Dr. Dorland has found that the famous men of the past, on an average, died twenty-five years younger than famous men of today. "I cannot strike an average age for the best work of the world leaders now living," says Dr. Dorland, "because the world does not yet feel able to judge what is the greatest work of each. We do know, however, that the practice of corporations and universities of retiring their men at sixty is a waste of their best brains. There is no reason why a man who showed initiative up to the age of sixty should quit showing it after that age. The man of sixty can succeed as well as the man of thirty if he keeps his health, his optimism, and his interest.

"Clemenceau, J. P. Morgan, the elder, John D. Rockefeller did great work after sixty years. The four great Japanese generals in the Russo-Japanese War, Oyama, Nordyu, Kuroki, and Oku, were all past sixty. In the World War all of the great commanders on both sides, Hindenburg, Von Bulow, Foch, Haig and Pershing, were sixty or more."

The universities which enforce this rule of retirement might set a good example to industry, by working out a better system which will permit them to use the mature reasoning power and judgment of the older workers. What is the use of increasing the life span unless we also increase the span of usefulness?

MEASURING EDUCATION BY THE CLOCK

The predominant idea in education for the past half-century has been standardization. This has well served its purpose in eliminating inadequate institutions and improving the general output of schools and colleges. However, within the past decade, a new idea has been gradually gaining a foothold. Educators have begun to realize that the ability of the students cannot be standardized, and that if a standard excellence in the product of education is to be attained, instruction must be designed to conform to the capacity of the individuals who make up the masses to be educated.

President Jabez N. Jackson of the American Medical Association has said: "If I were to make one criticism of the medical educational system, it would be that information has been confused with education, and that we have imagined that if we could pour into the mind of a man a certain amount of information we were educating the man. As a matter of fact, a true education is that education which develops a man not only to know facts, but to know the relativity of facts, to be able to associate those facts and come to an intelligent reasoning process."

This cramming of information, however, is gradually being superseded by a method of experimentation and practical application of the facts thus learned. Fitness for graduation, especially in medicine, depends manifestly not upon the number of hours spent in the presence of a lecturer, not upon the facts memorized, not upon the periods occupied by laboratory work, but rather upon the development of judgment, upon the power to react quickly in an emergency, upon the ability to apply the scientific facts and methods learned in the classroom, at the bedside, and in the dispensary, and upon the capacity for continuing self-development after graduation. Education cannot be measured by the clock. Its function is to develop responsible and capable men and women, and the time required varies with the capacity of the individual student.

It is becoming increasingly evident that textbook study and lecture courses, and even thorough laboratory training are not sufficient to prepare physicians safely to practice their art

on their fellow men. The best way to learn how to do anything is by doing it—under adequate supervision, and the didactic method, even though supplemented by hospital internship, has been tried and found wanting in this respect.

The trend towards a preceptor system in many medical schools, especially in those of the middle west, is an outgrowth of these ideas. The University of Wisconsin Medical School has established a method of assigning not more than one or two students to a given preceptor at a given time, thus offering "an opportunity for close personal relations not possible under the usual conditions which prevail in medical schools." The growth of group clinics in this state offers an excellent opportunity for training of fourth-year students in clinical medicine. According to Dean C. R. Bardeen, this system of teaching "will do much not only to bring the student into touch with the active practice of scientific medicine, but also to stimulate the practice of scientific medicine in the state." The University of Michigan Medical School has also been experimenting on a small scale with assignment of upper classmen during the summer vacation to duty with general practitioners in the smaller cities and towns of that state. Hugh Cabot, the dean, reports that the preceptors said they were glad to have the students and found them stimulating, while the students showed outward and visible evidence of having been both stimulated and benefited. Similar experiments have been carried on by the University of California Medical School and the Northwestern University Medical School. Uniformly beneficial results are reported by those in charge of this work.

It is, therefore, possible to look forward to a time when standardization of development may be required for graduation from a medical course rather than standardization of the time spent in achieving this development. The point of view differs greatly, and this attitude should embrace not only the graduates of an institution, but also the institution itself.

The criterion by which teaching institutions have been judged and are still being judged is unfortunately concerned too much with physical equipment, with amount of endowment, with standardized methods. The individuality of a school, as of its students, should be treasured, and instead of measuring its efficiency by its similarity to others of its class, it should be gauged by the product it turns out. This principle applies not only to medical schools, but throughout the world of education. From the kindergarten to the university, the ideal has been to make all schools conform to the standard measuring rod, but there is increasingly apparent an undertone which in time may dominate the picture—the effort to develop the individual genius of the pupil which eventually may also be applied to the institution itself.

YOUR HOME-TOWN NEWSPAPER

There are very few publishers altruistic enough to run a newspaper solely for the service it can perform to the community. Most of them are run, as is any other business, for the money there is in it. It is scarcely to be expected, then, that profitable advertising will be refused unless the publisher has unusually strong convictions on the subject, even though that advertising may be of a nature to make it actually prejudicial to the public good. The temptation to run objectionable patent-medicine advertising seems to be too strong for many publishers to resist. Most of the more prominent city papers are quite consistent in their attitude, and discriminate carefully between the "sheep and the goats." Unfortunately, some of the smaller papers, largely in the smaller cities and towns and the rural districts of our State, are not so well censored. In one of these papers which prides itself greatly on its public spirit we recently measured 249 column inches of objectionable advertising. In another there were 164 column inches of the same class. In a third, several full-page ads. have appeared of notorious quacks. In yet another, side by side with health advice syndicated by a prominent authority on the subject, was advertising of one of the most pernicious types of "cure." Instances might be cited from paper after paper throughout Pennsylvania.

Individual protest seems to accomplish little in removing permanently this lucrative source of income from the pages of most papers. Unless a responsibility for the health of his community can be developed in the publisher, there is only one other argument that will tell—organized pressure aimed at his income or the prestige of his paper.

In this connection, a report, recently published in *Northwest Medicine,* of the Committee on Publications of the Oregon State Medical Society, is of great interest. This committee "believes that the conception that the medical society should do nothing is wrong. . . . During the past year the medical advertising appearing in all newspapers in Oregon has been clipped and tabulated, and is of value as an index of quackery in Oregon. . . . Perhaps you do not know that the Christian Science organization

all over the world answers every public statement which directly or indirectly reflects on its doctrines or practices. The physicians should be as alert in protecting the public health and in fighting falsehoods as are these people in upholding their beliefs."

This committee has consistently followed up all objectionable advertising within its state wherever found, and positive results have been secured in a large number of cases when definite derogatory information could be presented. This was even extended to certain national publications, and in some cases to publication of feature articles written by obnoxious authors. A Medical Society Telephone Service has been established in Portland which "has been of immense good along the lines of publicity, as it has established a definite 24-hour contact with the public," which is learning to call the telephone service for information on all matters relative to the practice of medicine. The number of inquiries regarding quack remedies, unlicensed practitioners, etc., it is reported, has steadily increased. "Incidentally, this telephone service is saving its over two hundred members $7.50 a month, which amounts to over $18,000 a year."

This committee is doing an important and constructive work in its own state, and one which might well be emulated. However, in a State so large as Pennsylvania, this work would better be carried on by the county societies. This is actually one of their responsibilities. It is a public-health problem greatly needing the attention of the only public-spirited organization whose members are thoroughly competent to censor the medical advertising in their local lay publications.

TOO MANY MEDICAL MEETINGS

We have contended for some time that the multiplicity of medical meetings should demand some attention to the end that unnecessary meetings may be eliminated and concentration permitted upon the actual needs in this regard of the medical men of the respective communities. Many of our large centers carry to an absurd extreme the numbers of medical meetings.

A recent editorial in the *Pittsburgh Medical Bulletin* admirably calls attention to this unfortunate state of affairs. It says in part: "In the larger centers of population, scarcely a day or night passes on which there is not only one but many meetings. With the spare time of a busy practitioner greatly limited, it is beginning to require no little power of discernment to choose wisely what meetings to attend. There is a growing feeling that it is being overdone, and some are looking for a way out. Is it not possible, at least in the larger cities, to have a sort of central clearing house, which would make possible the presentation of material of medical interest on a wide scale, and do away with so much of the duplication that now exists? It would reduce greatly the number of meetings and thereby conserve much time and effort. It would do away with all the papers that are presented under a greater or less sense of compulsion. It would do away with the constant drive to get the doctors out. It would develop meetings of high class, create greater interest and worth, and make for a rational supervision of material. A too frequent feeling of disappointment, a too frequent call regardless of one's willingness or preparation, a too numerous directory to choose from, may become a too great impediment to carry. Time is getting too precious to be misspent. We are in a period of conservation and retrenchment. The problem is not too big for solution and should be solved."

JOTS AND TITTLES

Neurasthenia and Calcium Metabolism

Dr. Thomas M. T. McKennan has written a most interesting paper, published in this issue, on "Neurasthenia—A Résumé." His family histories add another mite of evidence to the growing conviction of strong hereditary influence in disease. The thing that interested us most, however, was that in one family there were three tuberculous descendants of neurasthenic parents, while in the second family there was one. This may be coincidence, and it may be a straw which points the direction of the wind. In tuberculosis, the calcium metabolism is admittedly disturbed. This process of the body is demonstrated to be controlled, or at least powerfully influenced, by sunshine and the parathyroids. The parathyroids also control spasmodic manifestations, and we have heard no less a person than Dr. Charles Mayo make a statement to the effect that nervousness may be controlled by parathyroid therapy. Question: May it be that neurasthenia is one of the varied manifestations of calcium deprivation, with possibly a hereditary base of parathyroid dysfunction? The statement in Dr. Henninger's discussion of Dr. McKennan's paper that many patients have recurrent attacts of neurasthenia in the spring, may be allied to the fact that rickets—another disorder of calcium metabolism—is most frequent in the spring. Here is a fertile field for investigation.

Scientific Discoveries Reported

Announcement has been made at McGill University that thorough research at the McGill University Pathological Institute and the Royal Victoria Hospital has established the presence of auxiliary nerves in cancers and malignant tumors, and that this proves that the cancer is not so independent and self-contained a growth of cells as has so far been assumed, and points

the way to a possible connection of the cancerous growth with the nervous system.

Dr. Ringold, of Berlin, has announced that he has discovered certain white corpuscles in the blood of cancer victims years before the visible outbreak of the disease.

The British Medical Research Council has announced the discovery that vitamin D may be procured by ultraviolet radiation of sterol, and in the form of ergosterol may be added to foods.

Dr. Sherman Davis, professor of chemistry at the University of Indiana, recently told a joint meeting of dentists and physicians at Harrisburg that no one knows what a balanced diet should contain, and that all foods are reduced by certain processes in the body to a number of basic chemicals before they are absorbed. Every chemical process in the body, he said, is in some way connected with the presence of calcium, and inspection of thousands of tuberculous patients has revealed that in every case the blood and skin of the patients were deficient in calcium.

The production of diuresis in three edematous patients by administration of parathyroid extract, persisting until relief of the edema, is reported in the *J. A. M. A.* for January 28, 1928, by William S. McCann, of Rochester, N. Y.

Dr. W. D. Coolidge has announced the development of a 900,000-volt cathode-ray tube from which electrons are expelled at a rate of 175,000 miles a second, demonstrating that vacuum-discharge tubes can be built for as high voltages as can be produced.

Professor I. S. Falk, bacteriologist of the University of Chicago, has announced an electrical test which will determine the presence of diphtheria infection in one minute. The apparatus costs about $100, and will make an unlimited number of tests. It is more accurate than the inoculation of guinea pigs. In several hundred tests made in collaboration with the Chicago health department under Dr. Bundesen, he found "the results of the electrical tests were 94 per cent in agreement with the guinea-pig tests, and that, in the other 6 per cent, cases not detected by the guinea-pig method were placed in the virulent, dangerous class by the electrical process."

The U. S. Department of Agriculture has suggested that rice polish be added to the diet as a valuable source of protein, fat, minerals, especially iron, and vitamin B. It is now available only during restricted seasons because it has a tendency to become rancid. Methods can unquestionably be found to prevent this rancidity. In the meantime, fresh rice polish is available when rice is being milled. Mills are polishing rice from late August to early May, the season when the diet is most likely to need the very food substances rice polish contains.

Medicoliterary Notes

The Hebrew Physician (HaRofeh HoIvree), the only medical journal published outside of Palestine which is written in Hebrew, has recently made its initial appearance under the editorship of Drs. Moses Einhorn and A. Goldenstein. It contains articles on general medical subjects, and has a special section devoted to new Hebrew medical terminology. The office of publication is 286 West 86th St., New York City. The Atlantic Medical Journal extends best wishes.

Three leaflets have recently been issued by the Public Charities Association of Pennsylvania, 311 S. Juniper St., Philadelphia, and Fulton Bldg., Pittsburgh, which are devoted to the adoption of the $50,000,000 bond issue for expansion of State hospitals. They are entitled: "Do You Know?" "Handicaps of Epilepsy," and "Why So Many Go Insane." These are interesting contributions to the subject so much in the minds of Pennsylvania physicians. Why not send for a copy of each?

The New York State Department of Health, coöperating with the U. S. Public Health Service, has recently issued a letter and leaflet dealing with the subject of control of syphilis and gonorrhea. Those who are interested might write to the Department at Albany for a copy.

One of the most interesting publications which has reached us for a long time is "A Chiropractic Catechism" issued by the Bureau of Legal Medicine and Legislation of the American Medical Association. It contains extracts from evidence in court cases. Witness this choice bit from a court examination of B. J. Palmer, president of the Palmer School of Chiropracty at Davenport, Iowa:

Q.—How old are you? A.—I was 28 last September.

Q.—And have you been studying chiropractics sixteen years? A.—I have.

Q.—Then you began the study of chiropractics at the age of 12? A.—At the age of 12 I was practicing in the field as a practitioner.

Q.—Of what? A.—Chiropractics. At the age of 11 I was kicked from home, forced to make my living.

Q.—What education had you up to that time? A.—Common sense.

Q.—What education had you had at the time you began the practice of chiropractics? A—Common sense.

Q.—None other? A.—Well, horse reasoning.

Q.—Any other? A.—Good judgment.

Q.—Any other? A.—That is enough.

Q.—Any other, I ask you? A.—That is enough.

Q.—Did you attend any schools at all? A.—I attended the common graded school. Q.—what grade did you finish? A.—I graduated from the ninth grade.

Further testimony revealed that the gentleman graduated from the Palmer School of Chiropractic under his father, and that he studied painting and music in Chicago—a wonderful preparation for practice of the healing art! Get a copy yourself and read the whole story. You will enjoy it.

County Society Attendance

The Medical Comment of Cambria County has published the county society record of attendance for the year. It reveals that 28 members failed to attend a single meeting, and 22 attended only one meeting. Only 4 attended all the meetings, but 15 were at ten or more. There were 301 visitors present at various meetings during the year. Attendance of members averaged 59 2/3. The largest attendance of members was 102, and the smallest 40. How does this record strike you for a society of 161 members?

Medical Advertising

We are grateful to the correspondent who favored us with a copy of the Bloomsburg *Morning Press,* with the pernicious advertising marked, for this convinces us that some one does read our column. We are grateful, also, to those who responded to our editorial "The Editor Asks Your Opinion" in the February number. But to get back to advertising: The *Morning Press* contained 82 column inches of advertising such as the following: "Learn How to Heal Your Rupture Free." "Child Caught Cold;—Pneumonia Feared"—of course the product advertised cured it! "To All Who Suffer Stomach Agony, Gas and Indigestion." "Disturbed Sleep." "Keep Looking Young." "Try This for Rheumatism and Pain Tortured Joints." "Child-Birth.... External lubricant for expectant mothers." "Thought She Would Choke from Gas." "Here is Something

Every Person Needs." And so forth *ad nauseam.* Don't you think our daily newspapers could be persuaded to do without some of this kind of publicity? At best, it's not elevating; at worst, it's harmful. Why not tell them so?

EDUCATION

Report of Inspections of Schools of Chiropractic and Naturopathy in the United States*

Personal inspections have recently been made of all schools existing in the United States for the teaching of particular methods of treating human diseases. While a complete report of all information secured would hardly be justified, a brief résumé of conditions found in schools of chiropractic and naturopathy will be of interest to both physicians and laymen.

Schools of Chiropractic

Chiropractic is said to have originated in 1895 with D. D. Palmer, a magnetic healer of Davenport, Iowa, and to have been "developed" by his son B. J. It is in reality the older osteopathic concept very slightly modified and renamed. It was the enlarging of the osteopathic field and the lengthening of the osteopathic curriculum that gave chiropractic its opportunity, and the latter's rapid development has been due largely to the fact that it offered a short-cut to osteopathy.

According to this theory, disease is due to vertebral subluxations which cause a pinching of spinal nerves between bones. This pinching interferes with the flow of "Innate Intelligence" or vital energy to the body tissues. The spinal "adjustment" alone renews that flow and restores health.

Chiropractic has had, during its brief career of thirty-two years, about one hundred and fifty schools. Forty of these are still active, many of them offering courses at night only and having a mere handful of students; more than half of the forty are so poorly housed and so inadequately financed that their future is problematic. B. J. Palmer, the "developer" of the cult, recently said: "According to our records, forty-eight chiropractic schools have closed their doors during the past two years."[1]

An entrance requirement of four years of high school study or its equivalent is claimed by the best of these forty schools; it is probable, however, that not one of them is enforcing the requirement. Mature age, business experience, ability to carry the chiropractic courses, or any convenient achievement is declared to be a satisfactory equivalent. A few schools gave ridiculously short and easy high-school quiz courses and certificates, for which a special tuition fee is charged; this course in one of the best chiropractic schools[2] occupies two evenings weekly for six months. But fifty per cent or more of these schools do not even claim to require a high-school education.

The courses offered in the majority of these schools run through "three school-years of six months each." They are poorly chosen, poorly arranged, and very poorly outlined. The student may begin on any school day of the year and finish on the same day of the eighteenth month thereafter. There are no adequate records of amount or quality of work done. Going to school is a matter of "doing time," and the student is given his doctor's degree as soon as the time limit expires. Legislation has forced a few schools to lengthen their courses to twenty-four or twenty-seven months. When this is done, the school usually shortens its working day to three or four hours as compensation, and holds out to the student his ability to spend the remainder of his time earning his expenses. Also, in almost any twenty-four or twenty-seven-month school, a student may graduate at the end of eighteen months if he declares his intention to practice in a state requiring only that amount of study. A few schools require less than eighteen months, and one of the most widely known gives only a home-study course that may be finished within three months.

The equipment invariably found in these schools consists of a few adjusting tables, students' chairs, and desks. Some have turned to physical therapy or naturopathy and installed a varying amount of electrical apparatus. A very few have x-ray machines, used (except in one instance)[3] in "spinography." About eight of the forty schools have small chemistry laboratories, with equipment for the very simplest experiments only. Two or three have dissection laboratories. None of the forty schools have laboratories for physics, physiology, physiological chemistry, bacteriology, histology, embryology, or pathology. Courses in these important laboratory subjects are either given by the didactic method or omitted altogether.

The clinics are not adequate for training in the recognition of even the most common disease. There is no adequate apparatus for the diagnosis of such disease. The treatment procedures taught and practiced do not include the therapeutic measures of demonstrated value, and so the patient is left practically without either diagnosis or treatment. There are no hospitals to which patients in need of hospitalization are referred, and none in which students may study the progress of cases.

The faculties of these forty schools are made up of men of very poor educational qualifications. While a very few are both educated and shrewd, and an occasional doctor of osteopathy or even of medicine may be found among them, the great majority are not trained in any of the "medical sciences," the nonmedical sciences, or the liberal arts. They are frankly out of sympathy with the organized medical and public-health interests, and are openly antagonistic to many of the most universally recognized facts and procedures of civilized life.[4] They circulate by word of mouth and through the school literature greatly misleading statements about the chiropractic "profession," ambiguous testimonials concerning the cure of incurables, and wild claims about the schools themselves which a most superficial investigation proves to be without foundation in fact.[5]

Schools of Naturopathy

While a venerable old age is claimed for naturopathy its development has really been more recent than that of chiropractic; its chief exponent, Benedict Lust of New York, claims that he organized the "parent school" in 1896, but even so ancient an origin as that is improbable.

The cult seems to have no basic idea but to be rather a nature-cure hodge-podge with a decided antipathy to drugs. In fact, naturopathy has developed in part as an effort to broaden the scope of chiroprac-

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*Inspections were made during the summer and fall of 1927 by representatives of the Council on Medical Education and Hospitals of the American Medical Association. The schools included in these inspections are the schools of chiropody, chiropractic, naturopathy, optometry, osteopathy, and physical therapy, as well as a large number of miscellaneous institutions.

tic. There are about five schools of naturopathy and all of them teach chiropractic. Several of the chiropractic schools teach naturopathy. Probably fifty or even seventy-five per cent of the practicing naturopaths have been recruited from the ranks of chiropractic, and the two cults have always been on the friendliest terms.[6]

Entrance requirements are said to include four years of high-school study or its equivalent, but none of the schools of naturopathy really enforce this rule. Records are not kept; the student's word is taken in the matter, and if he is so thoughtless as to confess that he lacks the high-school requirement the matter is either forgotten or patched up with as little embarrassment as possible. One school offers a night course in which the deficiency may be made up (extra tuition being charged for this service), but admits that the requirement has never been enforced.

The courses run through twenty-four or thirty-six months, with a short school day and an evident carelessness regarding attendance. It is probable that only one school has day classes. These institutions show a marked tendency to have students attending two or more "schools" simultaneously. One school, for example, which claims to operate under about twenty different names, offers "a liberal reduction to students taking four or more courses (schools) at the same time." Another tried to enroll the inspector in two "schools" at once when fifty per cent of the sessions of one conflicted with the sessions of the other. One school counts attendance in each class twice—once for naturopathy and once for chiropractic—and so claims to pile up 6,000 class-hours (thirty-minute periods) of study, thus "qualifying" under the new Florida law; this school gives every student two diplomas, and many students three or more, each diploma bearing a different name for the school. No outline of the courses offered is published by any of the schools of naturopathy.

The subjects include sysmotherapy, glucokinesis, zone therapy, physicultopathy, astrological diagnosis, practical sphincterology, phrenological physiology, spectrochrome therapy, iridiagnosis, chiropractic, diet, hydrotherapy, osteopathy, physiotherapy, electrotherapy, mechanotherapy, heliotherapy, tension-therapy, naprapathy, neuropathy, physical culture, and many others.

The equipment in these schools differs little (if at all) from that found in schools of chiropractic, except that a small amount of electrical apparatus is usually found, and adjusting tables are not quite so much in evidence. A small chemistry laboratory is usual; that of the "parent school" in New York has room for two or possibly three students, but has not sufficient equipment for so large a number to perform the same experiments at the same time. There are no laboratories for physics, physiology, physiological chemistry, anatomy, bacteriology, histology, embryology, or pathology.

The clinics are even less adequate than those of the chiropractic schools. No school of naturopathy has a hospital associated. The therapeutic procedures include chiropractic, osteopathy, hydrotherapy, electrotherapy, diet, and a wide range of so-called "natural methods."

The faculties of these schools are composed of untrained men, many of whom have been recruited from the schools of chiropractic. Their educational qualifications are so like those of teachers of chiropractic that no further statement is necessary. That such instructors should train students in the proper use of so wide a variety of therapeutic measures, and do it within the short time allowed, is obviously impossible.

General Discussion

In such a brief report many matters of interest must be entirely omitted and many others no more than mentioned; elaboration, though a constant temptation, is one which brevity forbids. But to one who is familiar with the elaborate equipment and curriculum found necessary to proper training in the science and art of healing today, the most impressive thing about these naturopathic and chiropractic schools is not what they are, but what they are not. A few statements from this point of view will properly close the report itself.

(1) Of the fifty active schools listed, a few are mere "branches" rather than separately existing institutions, and these fifty constitute less than one-third of the number formerly existing. (2) All but a mere handful of these fifty existing schools are so poorly housed and so inadequately financed that their continuation is problematic. (3) Very few of these schools have even one adequately trained teacher on the faculty, and there are probably less than five expert all-time teachers in the entire lot of fifty institutions. (4) Not one of these schools actually enforces a matriculation requirement of even five minutes of high school study. (5) Not one of the fifty schools gives so much as one worthy laboratory course or has one worthily equipped laboratory. (6) Not one of these schools conducts a clinic in which a wide variety of the common diseases may be studied. (7) There is not one clinic equipped with the trained personnel or the scientific apparatus for the clinical diagnosis of a variety of the common diseases, nor having a laboratory equipped for checking such clinical diagnoses. (8) There is not one clinic equipped for the proper treatment of patients suffering from such diseases. (9) There is not one of these schools whose students or whose faculty may enjoy the privilege of practice or even of observation in any worthy hospital. (10) There is not one of these schools that does not proceed on the basis of unproved theory, ignoring the lack of endorsement by all worthy educational institutions. (11) There is not one of these schools that does not ignore or even avowedly oppose the scientific point of view and the facts of medical science accepted by the authorities of the entire civilized world. (12) There is not one of these schools that does not owe its existence to the fact that it offers a short-cut to the practice of medicine.

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1. Article: "The Great Undertow."

2. National College of Chiropractic, Chicago.

3. The Pasadena College of Chiropractic reports that its students are taught x-ray therapeutics.

4. For example: vaccination, typhoid immunization, specific medication, diphtheria antitoxin, quarantine, focal infection, germ theory of disease, etc.

5. Thirteen of these schools have made affidavits to the American College of Chiropractors that the curriculum includes 3,528 forty-five-minute hours of work, and on the basis of these affidavits have been rated by this "college" as "class-A schools" and awarded "diplomas of honor." Allowing for ten-minute intervals between classes and five school days per week (considering that not a single holiday is allowed during the eighteen months of the course), this schedule would require more than eight hours of actual attendance daily, a program which no school of any nature would attempt to follow. The American College of Chiropractors admits that none of these schools were inspected prior to their being rated and that none of their claims have been investigated since.

6. The chiropractor may easily become a naturopath by taking a three-months' "postgraduate" course in one of the naturopathic schools.

Report of Inspections of The Schools of Naturopathy and Chiropractic in Pennsylvania*

Personal inspections have recently been made of all schools existing in the United States for the teaching of particular methods of treating disease. This report is a résumé of information secured by these inspections in the State of Pennsylvania.

1. Franklin Research University

This school is located at 718 Spruce St., Philadelphia. It claims eight departments, six of which are probably totally inactive. The two active departments are: (a) The College Preparatory Institute, now offering "a four-year high-school course in sixteen months" and said to have "sixty or eighty students," and (b) The School of Naturopathy and Graduate School of Natural Healing Arts and Sciences," now offering a night course in naturopathy (including chiropractic) and claiming "about twelve students."

The faculty of the school of naturopathy consists of Israel Zamost, T. T. Lake, and "about two others." Two or more of these are also on the faculty of the Institute, and half of the sessions of the school of naturopathy are simultaneous with sessions of the Institute.

The course in naturopathy is four years long, but "each college year consists of six months," and the students "have the option of attending school continuously during the whole year and thus complete the course in two years." The sessions are held from 7.30 to 11.00 o'clock on four nights weekly, but the Friday-night work was not being given at the time of the inspection, because the man in charge of it had been "very seriously ill for several weeks." It was intimated that this work could not be resumed soon. If not resumed at all the total clock-hours per week of school are ten and one-half, and the total for the twenty-four months without holidays or "cuts" are 1,092. If resumed and all time be made up, the total is raised to 1,370 clock-hours.

The entrance requirement is said to be a four-year high-school course or its equivalent. But the inspector, who claimed only one year of high-school study, was advised by President Zamost as follows: (a) he could finish his high-school work in the night sessions of the Institute within a year; (b) he could attend simultaneously the night sessions of the school of naturopathy, finishing just two calendar years from date of matriculation; (c) he could start any time, regardless of point reached in their study by the other students of the class; (d) he could work during the day in order to earn his expenses, and would not find this schedule a menace to his health.

Degrees are conferred at the end of the first twelve months and every six months thereafter, as follows: twelve months, N.B.; eighteen months, N.M.; twenty-four months N.D.; six months of postgraduate study, D.N.Ph. (doctor of natural philosophy).

The school rooms for naturopathic study seem to be confined to the first floor (the most but not all of the Institute's work is probably done on the second floor). These rooms consist of: (a) the administrative office; (b) two lecture rooms with a combined seating capacity of about fifty (probably used jointly with the Institute); (c) a chemistry laboratory with room for about ten students (probably used jointly with the Institute); and (d) a small clinic room which curtains divide into four or five treating booths. Although a sanitarium was mentioned as associated, a further inquiry forced the admission that it was a private institution located at Secane, nine miles away.

The equipment seen in the clinic consisted of (a) four or five tables and chairs; (b) one electric cabinet for combined diagnostic and therapeutic purposes; and (c) a colon-therapy outfit. (d) The chemistry laboratory was very meagerly equipped for even the most elementary (high-school) course. (e) An inquiry concerning a physics laboratory was answered by pointing to a small pile (about a hatful) of levers, pulleys, et cetera, on a shelf in an old cabinet in one of the lecture rooms. (f) Laboratories and equipment for use in physiology, physiological chemistry, bacteriology, anatomy, histology, embryology, and pathology were not found. In the light of these facts, two statements in the school announcement are interesting; they are: "Our equipment is complete and modern," and "The standards of these schools are high."

2. Naturopathic College and Hospital

This school is otherwise known as the College of the Pennsylvania Society of Naturopaths, and Thomas J. Goldberg is its executive director. It is located in an old apartment house at 1333 North Broad Street, Philadelphia. There has never been a hospital associated, though the school's 1927 bulletin gives the picture of one and prints a list of its staff, while the 1927 commencement program announces the appointment of six of the graduates as its "assistant physicians." Indulgence in such wild dreams makes the discovery of facts difficult.

The faculty is said to be "much changed," since the publication of the 1927 bulletin, "to take care of the enlargement of the program," and now to consist of "about twenty members." Since the bulletin lists twenty-four, with four additional places unfilled, the "enlargement" idea is probably of the same nature as the dream of a hospital. Stephen D. Large, the school's president, reported "about ninety students all told," but another member of the faculty confessed, "We have only ten freshmen; we limit the class to fifteen." There were sixteen graduates in the class of 1927. If these two known classes combined be taken as equal to half the total enrollment, there would now be fifty-two students. Even this estimate is probably too high.

The course runs through "three years of eight months each," or twenty-four months, and is "given during the evenings, Monday to Friday inclusive." The best evidence available indicates three clock-hours each evening, which with no holidays nor "cuts" would give a total of 1,560 clock-hours.

The entrance requirement is said to be a four-year high-school course or its equivalent; the equivalent is said to "depend on the dean." But when the president was told by the inspector that he had had only one year of high-school study the president replied, "Oh, well, we could get you through all right." On completion of the course, the degree of N.D. is conferred.

The school rooms seen consisted of (a) an administrative office, and (b) a combination office, lecture, and clinic room. (c) The school probably has one or two other rooms and a small amount of electrical equipment. (d) The presence of a laboratory for

*Inspections were made during the summer and fall of 1927, by representatives of the Council on Medical Education and Hospitals of the American Medical Association.

work in physiology, chemistry, physiological chemistry, bacteriology, anatomy, histology, embryology, or pathology is very highly improbable, but the lack of response to the inspector's request to be shown through the school makes a more positive statement unwise.

Two branches are mentioned in the school bulletin, one at 27 Freeport Street in Etna, and one at 252 North Main Street in Wilkes-Barre. The Etna branch has been inspected; it is the private office of Robert W. and Bertha Berger, and had enrolled only one student for the twenty-four-month course prior to date of inspection. A seventy-two-hour course was being offered to all drugless therapists, but "only a few" were said to have taken it up. A lesson was given every Thursday evening, but credit on the seventy-two hours was accorded for work done privately, and so the student might graduate within a very few weeks. It is doubtful that the Wilkes-Barre branch is active. Maurice Williams is named as its "regional director."

3. Doughty-Marsh College of Chiropractic

This school erected its own building, a beautiful and reasonably adequate two-and-one-half-story brick structure, at 4201 Walnut Street, Philadelphia.

The faculty now numbers five, one of whom is also a student in the school. There are forty-five students, and there were fifteen graduates last year.

The course covers eighteen months in daytime or twenty months at night. A school-day comprises four hours of work, and the entire course is said to consist of 2,015 sixty-minute hours.† The school catalog is not very specific as to the nature of the subjects of study. Chemistry is said to be taught, but "in such a manner as not to be burdensome to the students." The bulletin board carries a warning to students in the clinic that no method of adjusting will be tolerated, except that which the school itself teaches. Regarding bacteriology the only description found is as follows:

> "The study of bacteria, their various classifications, manner of division, and conditions favorable and unfavorable to them is not of any great importance to the Chiropractor. Knowing whether the germ is green or yellow, or mixed in color; long or short, fat or thin; fifty legged or four legged, will not help him to find the causative subluxation. State Boards require it, however—and we want our students to meet the requirements of all State Boards. Only enough of this work is given the student to give him a general knowledge of the subject and the lectures are presented in such a manner as not to become burdensome."

Entrance requirements do not include high-school graduation. Indeed the secretary told the inspector plainly that the student "doesn't have to be a graduate of a kindergarten." On completion of the eighteen months of study the student is granted the degree of D.C.

The building (a) contains ample room, is well lighted and ventilated, clean and inviting. One of its (b) two administrative offices contains (c) an old-model x-ray outfit. (d) No chemical laboratory was shown, and in all probability none exists. (e) There are certainly no laboratories for physics, physiology, physiological chemistry, bacteriology, anatomy, histology, embryology, and pathology. Teaching of any of these subjects, to which laboratory work is so vital, must necessarily be didactic. (f) The large clinic room contains a polished floor, nine adjusting tables, and a piano, suggesting that adjustments may often be followed by dancing. (g) There is no hospital associated.

†A four-hour day five days weekly for eighteen months, without holidays or "cuts," comprises 1,560 clock-hours.

4. National Chiropractic College

This school is located on the second floor of a building at 2324 Columbia Street, Philadelphia, and is run by a colored man (A. Mark Harris) and his "associate." Harris states that the school "is not functioning at present," having graduated its last class (of fifteen) in October, 1926, but that a "very thorough" private course is now being given to eight colored and one white student.

The course runs from 8.00 to 10.30 o'clock on three nights weekly for eighteen months. Without holidays or "cuts" this amounts to 585 clock-hours. On completion of the course the degree of D.C. is awarded.

Regarding entrance requirements no educational standard is set, and Harris states also that no color line is drawn.

The school rooms consist of (a) an administrative office, (b) a treating office (private?), and (c) a combination lecture-and-clinic room.

The equipment seen consists of (a) one large therapeutic lamp, (b) one other piece of electrical apparatus (probably high-frequency), (c) a few adjusting tables, (d) two desks, and (e) some chairs.

5. Universal Chiropractic College

This school now has its general offices and clinic at 3531 Forbes Street, Pittsburgh, and its lecture rooms at 208 Darrach Street, a half-mile away. At the first address the school rents (a) three offices and (b) two clinic rooms, on the second floor of a two-story brick structure; at the second is a four-story building owned by the X. Y. B. Fraternity, and it is said to contain three lecture rooms (the entire building was shown, and the only lecture room seen was the parlor). The girl students room in private homes and the boys live in this "frat" house.

The faculty now numbers five. A class of thirty students has recently been graduated, leaving thirty under-graduates; a freshman class of thirty is expected to enroll soon.

The course runs through eighteen months, and claims to include 2,770 class-hours. The clock-hours provided for in both class and clinic schedule (on page 16 of the catalog) are 1,612, without holidays or "cuts." Regarding the subject matter presented, the catalog is quite indefinite.

Entrance requirements do not include high-school graduation. On completion of the course the degree of D.C. is awarded.

The equipment is very meagre. It consists of (a) desks, (b) chairs, and (c) adjusting tables. (d) An x-ray machine is pictured in the catalog, but the inspector did not see it and is of the opinion it exists only in some chiropractor's private office. (e) There are no laboratories for physics, chemistry, physiology, histology, embryology, and pathology. (f) Clinical facilities are extremely meagre, and clinical methods are confined to chiropractic adjustment. (g) There is no hospital associated. The letterheads of this school carry the inscription: "The School of Quality."

General Discussion

To one who is familiar with the elaborate equipment and curriculum found necessary to proper training in the science and art of healing today, the most impressive thing about these naturopathic and chiropractic schools is not what they are, but what they are not. The study of these schools has led the writer of this report to the following conclusions:

(1) Only one of these five active schools is ade-

quately housed, and its housing is adequate not for real training in the healing art, but only for the very limited, superficial work which it is doing. (2) There is not one adequately trained teacher on the faculty of any one of these five schools. (3) There is not one expert all-time teacher in any one of these five schools. (4) There is not one of these schools enforcing so much as five minutes of high-school study as an entrance requirement. (5) There is not one of these schools giving so much as one worthy laboratory course nor having one worthily equipped laboratory. (6) There is not one of these schools conducting a clinic in which a wide variety of the common diseases may be seen. (7) There is not one clinic equipped with the trained personnel or the scientific apparatus for the clinical diagnosis of a variety of the common diseases, nor having a laboratory equipped for checking such clinical diagnoses. (8) There is not one clinic equipped for the proper treatment of patients suffering from such diseases. (9) There is not one of these schools keeping worthy records, either of students in the school or of patients in the clinic. (10) There is not one of these schools whose students or any member of whose faculty may enjoy the privilege of practice or even of observation in any worthy hospital. (11) There is not one of these schools that does not ignore or even avowedly oppose the scientific point of view and the facts of medical science accepted by the authorities of the entire civilized world. (12) There is not one of these schools that does not proceed on the basis of unproved theory, ignoring the lack of endorsement by all the worthy educational institutions of the world. (13) There is not one of these schools that is properly financed. (14) There is not one of these schools that is able to demonstrate its stability for the ensuing five years. (15) There is not one of these schools that does not owe its existence to the fact that it offers a short-cut to the practice of medicine. (16) There is not one of these schools that is not training men for the practice of the treatment of disease in defiance of law. (17) There is not one of these schools that does not deliberately circulate misleading statements concerning itself and the "profession" for which it offers training. (18) There is not one of these schools worthy of the endorsement of the Commonwealth in which it exists.

Extinct Schools

It is highly improbable that any other schools of naturopathy or of chiropractic now exist in Pennsylvania. A few schools formerly active have been saved from a less noble end by merging with some of the five discussed above. For example, (1) *The Philadelphia College of Neuropathy and Naturopathy*, formerly conducted by T. T. Lake at 122 South Eighteenth Street, Philadelphia, merged with the School of Naturopathy of the Franklin Research University about the first of September of this year; also, (2) *The Pittsburgh College of Chiropractic*, formerly at 130 South Fairmount Avenue, Pittsburgh, merged with the Universal Chiropractic College in 1918. Still others may have found a like solace in the days of their dissolution. A list of extinct schools other than the two named above is appended hereto, but this is done with full knowledge that the list is incomplete.

(3) American College of Naturopathy,
1815 North Logan Square, Philadelphia.

(4) Pennsylvania College of Naturopathy,
2225 Spruce Street, Philadelphia.

(5) Pennsylvania College of Naturopathy,
Lyceum Building, Pittsburgh.

(6) Pittsburgh College of Naturopathy,
7123 Thomas Blvd., Pittsburgh.

(7) Pennsylvania School of Chiropractic,
34 South Seventeenth Street, Philadelphia.

(8) Pennsylvania School of Chiropractic,
3714 North Broad Street, Philadelphia.
(Not connected with school on Seventeenth St.)

(9) Philadelphia College of Chiropractic,
Liberty Bldg., Broad and Chestnut Streets,
Philadelphia (A. W. Marchand's School).

ORGANIZATION ACTIVITIES

Annual Congress on Medical Education, Medical Licensure, and Hospitals

The annual Congress on Medical Education, Medical Licensure, and Hospitals, was held in the Palmer House, Chicago, February 6-8, 1928.

In opening the conference, Dr. Arthur Dean Bevan, chairman of the Council, devoted the greater portion of his address to a review of the changes that have taken place in medical education in America during the past twenty-five years. In regard to an uneven distribution of doctors, Dr. Bevan states there always has been and always will be. There is a great movement of all classes of people from the country to the cities, and in this movement the doctors have taken an active part. There remains much to accomplish. "In order to secure, therefore, the best medical education and the best medical practice, both preventive and curative, it is necessary to secure the support and coöperation of the medical profession, of the universities, and of the community." Further, "Our real problem of the next ten years is to bring about this coöperation. We must not allow our universities to build and conduct hospitals for the primary object of teaching medicine. We must bring about a situation where the communities will build and conduct hospitals for the proper care of the sick, and the best of these will be used as teaching hospitals. No hospital should ever be built unless its primary purpose and function is for the care of the sick." At each university medical school there should be built up a great medical center "for the purpose of doing at least three things: Securing for the people the great possibilities of modern scientific medicine; for the teaching of medicine; and for medical research."

Of the papers read may be mentioned the following:

In a paper on "An M.D. Degree Five Years After High School," Dr. Wilbur C. Davisson, dean of the new Duke University School of Medicine, Durham, N. C., outlined the plan of placing the sciences now taken in the two years' college premedical course, in the first year of the medical course, the four years of the medical course to be divided into four quarters, each college session to extend from October 3d to August 31st. By this plan, 54 per cent of the time will be devoted to curriculum assignments, and 46 per cent will be free time, the degree to be conferred at the end of the internship.

A symposium on "Medical Research in the Government Medical Department" was conducted by the Surgeons general of the respective departments. Surgeon General Cumming stated that the Federal Government has begun organization of a unified, nation-wide fight to discover a cure for cancer. The Public Health Service will ask all universities and special foundations now searching for a cancer cure to join the Government in a unified effort to conquer the disease. The purpose of a coöperative effort under Federal Government auspices will be to eliminate the duplication and overlapping of present cancer-research work. The object is so to

organize and concentrate the fight on cancer that each organization will follow separate lines of attack that will merge into coöperative research, with the hope that a cure for cancer will be brought much nearer.

In a paper on "Modern Preceptorships; the Value of Associate Teaching," Dr. Charles R. Bardeen, dean of the University of Wisconsin Medical School, detailed the plan adopted by this school to assign junior and senior students to hospitals and accepted practitioners of medicine in order to give them the benefit of preceptorial advantages. Such students acquire much of the art of medicine, and enter the practice of their profession with this very valuable attribute, which is becoming a lost art. Each student is required to submit a report of his assignment. Some of these were read. The experiment has proved most commendable. Some of the students state the experience is more valuable than the college course, and that many conditions were seen which are rarely referred to in college. The general effect on the student has been of marked value.

A symposium on "Autopsies in Medical Schools and Hospitals," was well conducted. This problem is of general interest to the profession because of the required percentage of autopsies demanded of all hospitals as a requirement for approval. Scientific medicine demands the securing of the greatest possible number of autopsies, and every physician must assume his responsibility in this regard.

A very practical program was arranged for the sessions of the Federation of State Medical Boards. The symposium on annual registration as an enforcement procedure showed that the trend in this direction is being looked upon as a universal necessity by state boards of licensure.

An abstract of the transactions of this Conference will be published in the *Journal of the American Medical Association,* to which our readers are referred for a more extended report.

Public Charities Association

The Sixteenth Annual Meeting of the Public Charities Association, held in Pittsburgh on January 14th, was an emphatic success. Pennsylvania's failure to provide adequate institutional care for her mentally and physically handicapped wards was stressed by prominent speakers. Dr. Charles H. Frazier, of Philadelphia, was reëlected as president of the Association. Hon. George W. Wickersham, former Attorney General of the United States, was the guest of honor and principal speaker.

In introducing Mr. Wickersham, Dr. Frazier stated that the Public Charities Association is conducting and will conduct throughout the year an intensive program of education to secure popular endorsement at the polls in November of the $50,000,000 bond issue for a ten-year building program of State institutions caring for the mentally ill, feeble-minded, epileptic, and delinquent. Dr. Frazier gave a concise but inclusive outline of conditions in these institutions, pointing out that they are all overcrowded and hampered in their work by lack of modern equipment, insufficient medical and nursing staffs, and poor living conditions for employees. He stated that State appropriations for many years have fallen far short of the needs, and that after careful study the Public Charities Association had concluded that the $50,000,000 bond issue was the only practicable solution of the problem. He added that Mr. Wickersham had been especially invited to speak because the latter had acted as general chairman of a state-wide Citizen's Committee in New York State which secured the passage of a similar bond issue in that State five years ago.

Mr. Wickersham complimented those present on the fact that the Pennsylvania bond issue was proposed and has already received the vote of two Legislatures without some such tragedy as forced action in New York, where twenty-two mental patients and three attendants were burned to death in a State mental hospital. Time and again, he said, attention of the Legislature and the public had been called to the fact that many of the New York State institutions for unfortunates were firetraps and were housing many more patients than they should have, but nothing was done to remedy the condition until this tragedy occurred. Mr. Wickersham gave an interesting and detailed description of the conduct of the New York campaign and of the businesslike way in which the money so secured has been expended.

Owen J. Roberts, prominent Philadelphia jurist, has accepted the chairmanship of the State-wide Citizens' Committee on Protection of the State's Unfortunates, organized by the Public Charities Association to secure the passage at the polls in November of the $50,000,000 Welfare Bond Issue to finance capital development of state-owned institutions caring for these unfortunates. —*P. C. A. Herald.*

Pennsylvania Public Health Association

One of the most successful meetings of the Pennsylvania Public Health Association was held in the auditorium of the Philadelphia County Medical Society Building, Philadelphia, on February 13th and 14th. The program was most interesting from a public-health standpoint. Dr. Theodore B. Appel, Secretary of Health of the State of Pennsylvania, made an address on "Heart Disease as a Public-Health Problem," which was discussed by Drs. James D. Heard and John D. McLean. Dr. Damon B. Pfeiffer read a paper on "Cancer as a Public-Health Menace," which was discussed by Dr. W. G. Turnbull, Deputy Secretary of Health; Dr. Harold B. Wood, of the Bureau of Communicable Diseases, State Health Department; Dr. G. E. Pfahler; Dr. J. B. Carnett; and Dr. J. F. Schamberg. The evening meeting on Monday was addressed by Drs. Charles H. Frazier and Samuel C. Schmucker, who spoke respectively on the subjects, "Pennsylvania's Greatest Need" and "The Status of Modern Science." A symposium on child health was held on Tuesday, February 14th. Dr. Harriet L. Hartley, Chief, Division of Child Hygiene, Bureau of Health, Philadelphia, spoke on "Malformations of Infancy." This was followed by a discussion by Drs. J. Bruce McCreary, Wilmer Krusen, and Samuel McC. Hamill. "Preventive Medicine in Child Health" was the topic of the address given by Dr. H. J. Benz. This was followed by a general discussion on the prevention of diphtheria in which Drs. W. W. Peter and Edward L. Bower were the principal participants.

The meetings were presided over by Dr. Howard C. Frontz, the president. Dr. Wilmer Krusen was chairman of the program committee.

The following officers for the ensuing year were elected: president, Dr. J. C. Reifsnyder, of Scranton; first vice-president, Dr. J. T. Butz, of Allentown; second vice-president, Dr. John M. J. Raunick, of Harrisburg; secretary-treasurer, Dr. William C. Miller; assistant secretary-treasurer, Dr. Edgar S. Everhart. The Executive Committee is now composed of the following: Dr. Theodore B. Appel, Dr. Howard C. Frontz, Dr. W. E. Matthews, Dr. Thomas W. Henderson, Mr. Thomas Herbert and Mr. C. B. Auel. Dr.

John M. J. Raunick was elected delegate to the American Public Health Association.

At a meeting of the Executive Committee the subject of coöperate membership was discussed, and by unanimous approval the Constitution was interpreted as indicating that any representative organization—city or county—having for its aim the promotion of public health is eligible for membership in the Association.

The next annual meeting will be held in Altoona, in February, 1929.

Study of Welfare Statistics

A study of welfare statistics, long contemplated by the Public Charities Association, has been begun by Dr. Ralph G. Hurlin, Director, Department of Statistics, Russell Sage Foundation, New York. The study will be made with the close coöperation of the Pennsylvania State Department of Welfare and public and private social agencies of the State. It is being financed by a grant from the Commonwealth Fund of New York, and special contributions being raised in Pennsylvania for the purpose. The aim of this study will be: (1) to examine the need for systematic recording of statistics of welfare work in the State; (2) to test the practicability of obtaining the needed data; and (3) to experiment with the analysis and distribution of the data collected in order to make them of most use to the contributing organizations. An experimental bureau of statistics has been opened in the Philadelphia office of the P. C. A. which will collect, analyze, and distribute current statistics of welfare work throughout the State. At the end of the year, a report will be made containing specific recommendations concerning the continuation of central collection of such statistics in this or another bureau.—*P. C. A. Herald.*

MEDICOLEGAL AND LEGISLATIVE NOTES

The Right to Confer Degrees

The following very interesting decision is reprinted in full by the courtesy of the Pennsylvania Department of Public Instruction:

DEPARTMENT OF JUSTICE
Harrisburg, Pa.
January 24, 1928.

Doctor John A. H. Keith,
Superintendent of Public Instruction,
Harrisburg, Pennsylvania.

Sir:

I have your request to be advised whether or not the Pittsburgh College of Chiropractice has the right to confer the degree of Doctor of Chiropractice and whether or not the Eastern College of Neuropathy and Naturopathy of Philadelphia has the right to confer the degrees of Doctor of Neuropathy and Doctor of Naturopathy, in this Commonwealth.

Both of these colleges were incorporated under the laws of the State of Delaware and both are registered to transact business in this Commonwealth under the Act of Assembly of June 8, 1911, P. L. 710. The Pittsburgh College of Chiropractice was registered on April 30, 1913 and the Eastern College of Neuropathy and Naturopathy was registered on October 26, 1926. Assuming that a foreign corporation organized for the purpose of conducting an educational institution may register in Pennsylvania, such registration of itself would not confer the authority to grant degrees in art, pure and applied science, philosophy, literature, law, medicine and theology or any of them.

The charter of the Pittsburgh College of Chiropractice provides that the corporation may confer the degrees of Doctor of Chiropractice and Philosopher of Chiropractice, and the charter of the Eastern College of Neuropathy and Naturopathy provides that the corporation may confer the degrees of Doctor of Neuropathy and Doctor of Naturopathy. The charters of both institutions provide that they shall have the right:

> "To have one or more offices, to carry on all or any of its operations and business and without restriction or limit as to amount, to purchase or otherwise acquire, hold, own, mortgage, sell, convey or otherwise dispose of real and personal property of every class and description in any of the States, Districts, Territories or Colonies of the United States, and in any and all foreign countries, subject to the laws of such state, district, territory, colony or country."

Assuming that the State of Delaware actually intended to give to these two corporations the power to grant degrees outside of Delaware, the question arises: Can a state issue a charter to a corporation validly conferring upon the corporation power to grant degrees beyond the territory of the incorporating state?

It is well settled that a corporation has the power, through its agents, to engage in business and to do any acts or make any contracts in other states or countries which are within the powers conferred upon it by its charter, provided the other state or country does not expressly or impliedly prohibit it from so acting within its limits. See Fletcher, *Cyclopedia Corporations,* Volume 8, Section 5719, page 9323. Thomas vs. Matthieson, 232, U. S. 221; 58 Law Ed. 577.

It is likewise true that a corporation doing business in a state other than that of its creation is presumed to assent to its laws and regulations. A state legislature may impose such terms, conditions, and restrictions upon foreign corporations as it chooses, unless it interferes with interstate commerce. See *Cook on Corporations,* Eighth Edition, Volume 3, page 2807.

It has long been established in this Commonwealth that "every power which a corporation exercises in another state depends for its validity upon the laws of the sovereignty in which it is exercised." Matthews vs. The Trustees of the Theological Seminary of the Reformed Presbyterian Church, 2 Brewster 541.

The recognition of a corporation's existence by another state and the enforcement of its contracts made therein, depend solely upon the comity of the two states. This comity is never extended where the existence of the corporation or the exercise of its powers is in any way prejudicial to the interests or repugnant to the policy of the state in which it is transacting its business. See Van Steuben vs. the Central Railroad, 178 Pa. 367. Paul vs. Virginia, 8 Wallace 181.

It is clear that a foreign corporation cannot transact business in other states or sovereignties without their consent, either expressed or implied, nor can it be doubted that a state has the right to prescribe the terms on which a foreign corporation shall be permitted to transact business within its jurisdiction, if the conditions imposed are not repugnant to the Constitution of the United States or are not a burden upon interstate commerce. Lasher vs. Stimson, 145 Pa. 30. American Clay Manufacturing Company of Pennsylvania vs. American Clay Manufacturing Company of New Jersey, 198 Pa. 189. Lafayette Insurance Company vs. French, 18 How. 407.

If the State of Delaware actually intended to give to these two institutions power to grant degrees beyond the territorial limits of that State, the exercise of that power in the Commonwealth of Pennsylvania will be

subject to the laws, rules, and regulations imposed by this Commonwealth.

Section 1 of the Act of June 26, 1895, P. L. 327 provides:

"All institutions of learning hereafter to be incorporated as colleges, universities or theological seminaries with power to confer degrees in art, pure and applied science, philosophy, literature, law, medicine and theology, or any of them, shall be incorporated in the manner hereinafter set forth,....."

Deputy Attorney General William H. Keller, in an opinion of November 11, 1916, addressed to Doctor J. M. Baldy, advised that it was his opinion that the degrees of Doctor of Neuropathy and Doctor of Chiropractice were degrees in medicine or applied science within the contemplation of the Act, and I am in accord with this opinion. The same reasoning applies to the degree of Doctor of Naturopathy.

The Courts of this Commonwealth have held that the practice of Neuropathy, Naturopathy or Chiropractice is the practice of medicine and surgery within the meaning of the Act of June 3, 1911, P. L. 639. See Commonwealth vs. Martindell, 82 Pa. Superior Ct. 417. Commonwealth vs. Seibert, 69 Pa. Superior Ct. 271, 262 Pa. 345. Commonwealth vs. Byrd, 64 Pa. Superior Ct. 108. Commonwealth vs. W. H. Jobe, Pa. Superior Ct. No. 139, April Term, 1927.

I am, therefore, of the opinion, and so advise you that the Pittsburgh College of Chiropractice and the Eastern College of Neuropathy and Naturopathy of Philadelphia, being foreign corporations, when they are exercising their corporate powers in the Commonwealth of Pennsylvania, are subject to the laws and regulations of the latter. Pennsylvania has authorized the granting of degrees only by institutions incorporated under our law. (See Act of 1895, P. L. 327.) There is no Act expressly or impliedly permitting foreign corporations to grant degrees in Pennsylvania. Therefore, these institutions, even though they may be properly registered in Pennsylvania, cannot, under any circumstances, grant degrees in this Commonwealth.

Very truly yours,

DEPARTMENT OF JUSTICE,
Signed, Penrose Hertzler,
Special Deputy Attorney General.

Miscellaneous Legislative News

Senator Arthur R. Robinson of Indiana has introduced into the National Senate an amendment to the Tax Reduction Bill which will permit the deduction of traveling expenses incident to attendance at medical meetings in computing the income tax. This privilege has so far been denied only to physicians, and the injustice has been keenly resented. By writing to your senator you may help to secure the enactment of legislation righting this injustice.

United States Senator Joseph E. Ransdell from Louisiana introduced during the closing days of the last session of Congress a bill which he proposes to reintroduce into the present session. It provides for the creation of a National Institute of Health within the U. S. Public Health Service, and appropriates $10,000,000 to construct suitable buildings and for equipment and maintenance, and provides for a system of fellowships which will enable trained research workers to pursue investigations either in Washington or at distant points. Acceptance by the Public Health Service of gifts from individuals who wish to endow specific lines of research is authorized. This bill is said to include all the provisions of the Parker Bill, which seeks greater efficiency in Government health work by combining all of these activities within the Public Health Service. Both the Parker and the Ransdell Bills were endorsed by the American Medical Association at its meeting last May, and the Ransdell Bill was endorsed by the American Public Health Association at its meeting on October 19, 1927. The Ransdell Bill should have the united support of the medical profession.

Chiropractors of the District of Columbia introduced a bill into the last session of Congress providing for a chiropractic board, composed of chiropractors, to license members of their cult in the District. This bill was passed by the House. As citizens of the District of Columbia have no suffrage, physicians from the various states should take up the matter with their various Congressmen and protest vigorously the passage of such legislation. An effort is planned by the medical profession of the District to secure enactment of a proper medical-practice act, and the support of physicians throughout the country is urged.

The main points, according to the *Mental Hygiene Bulletin*, of Governor Smith's (New York) much-discussed proposals for changes in criminal law are: (1) That the jury should determine only the guilt or innocence of the person on trial. (2) That after a jury has returned a verdict of guilty the power of imposing sentence should be taken from the Judge who presided at the trial and given to a special State board to be created by a constitutional amendment. (3) That the members of this board should include legal experts, psychiatrists, and penologists devoting their entire time to the work and paid as high salaries as any others in State employ—$25,000 a year. (4) That this board should determine whether a convicted felon should go to a State prison or to an insane asylum; and that it should determine the length of punishment and the extent he may be subject to parole.

Miscellaneous Legal News

Health News reports that the father f a girl who contracted typhoid fever during an outbreak of the disease in the city of Cohoes, N. Y., last October has filed a claim for damages, and will carry his claim to the Supreme Court if it is not allowed by the city. The outbreak is said to have been caused by polluted water from the canal which entered the city mains at an industrial plant through a cross-connection.

The Appellate Division of the Supreme Court in Brooklyn, N. Y., has affirmed the conviction of Dr. David H. Snelling, of the research department of the Jewish Hospital, Brooklyn, on a charge of cruelty to animals. Dr. Snelling contended that the taping of the animal's muzzle of which he was accused had been part of an experiment in research, and had caused it only slight discomfort. The court held that it was an act of cruelty.

The United States Board of Tax Appeals of the Internal Revenue Bureau has rendered a decision that if a motorist sustains damage to his automobile as the result of an accident, he may deduct such losses in the computation of his income tax, whether the vehicle at the time of the damage is being used for pleasure or business, provided he is not compensated for his loss by insurance or otherwise. This ruling completely reverses former decisions of the Board.

Recommendations Relating to the Public Health.—Surgeon General H. S. Cumming, of the Public Health Service, in a recent report to Congress, draws attention to the fact that the health of the nation has a profound bearing on economic, social, and political advancement. He states that it is pertinent, therefore, to recommend additional means neces-

sary not only to guard against the spread of disease, but to determine its underlying causes. The saving of life and the reduction of disability that have been effected in recent years are attributable almost wholly to the extension of our knowledge. It is through this means that further advances may be expected. Problems of health, however, are becoming increasingly complex, and their solution will require greater specialization.

Scientific research work in public health has shown conclusively that it is a good investment. The sums appropriated for this purpose are inadequate, however, when compared to those expended for the protection of property rights, including the health of living property. A larger proportion of money and effort should be devoted to researches which will enable the owner to improve health, the better to develop and enjoy his property. A reasonable increase of financial support of this work such as could be efficiently undertaken by existing agencies is strongly recommended. In order further to promote efficiency in public-health research, provision should be made in law for the coördination of this activity in government and such rearrangement of administration or organization as may be necessary.

A bill was introduced in the last Congress providing for the coördination of public-health activities, such rearrangement of organization as may be necessary to bring it about, and the unification of the status of professional and scientific personnel performing the work. The hearings held before the subcommittee on this measure indicated the widespread interest in legislation to coördinate Federal public-health activities. The opinion was general of representative medical, public-health, and sanitary-engineering organizations, universities, and life-insurance companies that the coördination of Federal public-health work through an enlarged and better-equipped Public Health Service would tend to eliminate duplication of effort in administration, in research, and in educational measures. —*Health News* of the U. S. P. H. S.

Case of Eight Years' Standing Decided.—Eight years ago Mike Sincavage, an employee of the Philadelphia and Reading Coal and Iron Company, was injured. According to *Pennsylvania Progress,* the record shows the Referee decided that the claimant's total disability ended on February 28, 1924, and was succeeded by a partial disability, and that the claimant could perform the work he was doing technically from November 20 to November 26, 1924, and therefore his petition for reinstatement of the agreement calling for total disability was dismissed. Testimony of the man's foreman and physician showed that the claimant is physically able to do light work, but that he is a neurasthenic due to his injury, and that his inability to will to do work is caused by the neurasthenia. In similar cases it has been held that when this condition prevails the claimant is entitled to an award. Therefore, the Referee's decision was set aside, the claimant's appeal sustained, and the agreement ordered reinstated as of December 8, 1924. Thus ends a case which has been before the Compensation Board three times on argument and once for hearing, as well as before the Common Pleas Court of Schuylkill County twice.

The April Primaries.—The primary election will be held on April 24, 1928. The following officers will be nominated: Delegates and Alternates to the National Conventions, all National Congressmen from Pennsylvania, twenty-five State Senators from the odd-numbered districts, State Representatives in the Legislature, the Auditor General, the State Treasurer, Judge of the Superior Court, and members of the State and County Committees. This primary election will practically decide whether or not the great variety of healing cults will be permitted to work their will on the people of the commonwealth. Your vote will count as it perhaps never has before. Don't fail to cast it—you and your wife, your sons and daughters, aunts, uncles, cousins, parents, grandparents, and grandchildren of voting age. Every vote will tell, so make this election a family party.

PUBLIC HEALTH

State Health Department News.—Through the bureau of inspection, the Department has recently made a drive on a number of physicians in Philadelphia and vicinity regarding the reporting of births. Eight hundred unreported births were discovered. As a result of follow-up work, 503 delayed birth certificates have been completed, with the necessary affidavits, and an effort is being made to obtain the remainder. Colonel James Duffy, in charge of this work, is quoted as saying that "While apparently excellent coöperation is found among the majority of physicians, it may be necessary to prosecute those who failed to file the affidavits required after the ten-day period has elapsed. The Department is bound to protect the records of this State which are so valuable in later life, not only from a health standpoint, but for use in schools, military and naval service, employment, and passports."

A report issued by the Bureau of Vital Statistics shows that 1927 was the healthiest year in the history of the State, with a decline in measles, whooping cough, typhoid fever, smallpox, malaria, and anthrax. Extensive service is rendered by the Bureau in the certified copy division. More than 50,000 certified copies of birth and death records were issued at the main bureau in Harrisburg, with a total of 71,077 including the Philadelphia and Pittsburgh branch offices. The sum of $35,538.50 was turned over to the State Treasurer as collected fees for this work. This bureau is the largest state bureau in the United States.

The venereal disease division reports that during the last thirty days 265 cases of venereal disease were rendered noninfectious, and that 12,873 treatments were given in the fifty-seven free State clinics. During 1927, 3,157 cases of venereal disease were cured or made noninfectious. Nearly 8,800 new cases were brought into the clinics. More than 28,000 treatments were given in the State clinics during the year, in which period the patients made 163,800 visits to the clinics.

The bureau of engineering reports that during 1927 nine new water-filter plants were put into operation, with two others under construction. Four other plants made substantial additions, and seven plants were overhauled. Twenty new chlorination installations were made for water supplies not requiring filtration. Seven are under construction, and fourteen plants have been revamped during the year.

The Department publishes a long list of pamphlets and publications which may be had for the asking. In the list there is almost sure to be something which you would like to have. Send for it and look it over.

Pennsylvania's Health; Laws of Pennsylvania Relating to Public Health; Poliomyelitis (Infantile Paralysis); Tuberculosis; Chickenpox; Smallpox; Mumps; Whooping Cough; Measles; Cerebrospinal Meningitis; Scarlet Fever; Diphtheria; Rules and Regulations of the Department of Health; Milk Regulations; Rules and Regulations as to Sanitation in Tenement, Lodging, and Boarding Houses; Safe Water Supplies and Waste Disposal for Rural Residents; Rules and Regulations as

to Public Health Nuisances; Homes and Environment; Model Ordinance for Sanitation of Tenement, Lodging, and Boarding Houses in Boroughs or Townships of the First Class; Model Nuisance Ordinance; Milk Ordinance; Septic Tanks; Extracts of Laws Regarding Housing; Healthy, Happy Womanhood; On Guard; Working Plans of the Venereal Disease Division; Keeping Fit; Sex Education in the Home; High Schools and Sex Education; Plain Points on Federal and State Narcotic Laws; What Growing Children Need; The Care of the Mother; The Care of the Baby; Breast Feeding; Bottle Feeding; Birth Registrations; Diet for Child from Two to Three Years; Diet for Child from Four to Six Years; Diet for Child from Nine to Eighteen Months Old; Diet for Child from Eighteen to Twenty-four Months of Age; Diet During Pregnancy; For Safer Motherhood; Summer Diarrhea; Pennsylvania Baby Book; The Why, How, and When of the Toothbrush; Articles on Diphtheria (3); School Health Inspectors' Manual; Teachers' Manual; Communicable Diseases Requiring Exclusion of Pupils from School; Nutrition Guide Posts; Sanitary Drinking Fountains; The Vaccination Law; Manual for School Health Service; Standard Weights; School Child's Diet Chart; Weight-Height-Age Table for Boys from Birth to School Age; Same for girls; Advisory Board Rules and Regulations.

Prevalence of Smallpox in the United States.—The health officers of 37 states reported 28,000 cases of smallpox during 1927. This number is practically the same as the number reported by the same states for 1925, but it is 2,300 cases more than were reported for 1926. Both the case rates and death rates for smallpox vary widely from year to year. The disease now frequently occurs in epidemics which flare up suddenly when the infection is introduced into unvaccinated communities and die out when vaccination deprives the disease of susceptible material.—*Public Health Reports.*

Another Milk-Borne Typhoid Epidemic.—*Illinois Health News* reports that a dairyman at Ullin had illness in his family, and his milk was handled by the family of a neighbor. Evidently the neighbor's wife was a typhoid carrier. As a result, eight cases of typhoid fever were found in Cairo, five in Mounds, and one in Ullin among people who were known to use the raw milk from this dairy. No new cases were reported after stopping the sale of its milk. Such cases point out the necessity of examination of all food handlers.

National Mortality Statistics.—The Department of Commerce, Washington, D. C., announces that 1,285,927 deaths occurred in 1926 within the death registration area of continental United States, representing a death rate of 12.2 per 1,000 population, a slight increase over the rate for 1925. This area in 1926 comprised 41 states, the District of Columbia, and 25 cities in nonregistration states, with a total estimated population on July 1, 1926, of 105,170,000 or 89.8 per cent of the estimated population of the United States. The principal increases in death rates in 1926 were from diseases of the heart (from 186 to 199 per 100,000 population), influenza (from 30 to 41), pneumonia—all forms (from 94 to 103), measles (from 2 to 8), and whooping cough (from 7 to 9). Decreases in rates in 1926 were from diarrhea and enteritis, under 2 years (from 32 to 27 per 100,000 population), and typhoid and paratyphoid fever (from 8 to 7).

The Healing of the Nations.—There are incorrigibly hopeful people who hail science as a means of social salvation. Forgetting what happened only the other day they look forward confidently to a world saved from want and disease and unified by a spirit of brotherhood and good will. How different the outlook of another group who see in indiscriminate medical care and the prevention of disease only the thwarting of natural selection by the preservation of the unfit, the handicapping of superior races, and the hastening of war through overpopulation!

Between the greeters of the millennium and the prophets of disaster are to be found those who carry on by taking what seems to be the wisest next step. While the "fit" are being defined and the superior races determined, these pragmatic folk try to gain more scientific knowledge, to relieve suffering, to control communicable diseases which threaten both the superior and the inferior, to diffuse information about health with the faith that nationally and individually the fit are likely to profit by it and the unfit to give little heed. —*News Service of the Rockefeller Foundation.*

Work of the U. S. Public Health Service.—Reports recently submitted by Surgeon General H. S. Cumming of the Public Health Service to Congress indicate the great scope of the work carried on by the Service and its immense value to the country. The work is done so quietly and with such complete absence of the spectacular that few of us realize the battle that is constantly being waged in our behalf against organisms and conditions productive of disease. We regret that the space at our command does not permit of publishing a complete list of the Service activities. These have included coöperation with foreign countries through exchange of the information and statistics; with the States of the Union in suppression of contagious diseases and study of unhealthy conditions; with health and scientific organizations such as the American Public Health Association, the Service of Epidemiological Intelligence and Public Health Statistics of the League of Nations, the International Tuberculosis Association, the National Safety Council, the Rockefeller Foundation, and the American Red Cross; and with other departments of our own Government, in providing medical examinations of aliens prior to granting of visas, medical treatment of destitute seamen returned from abroad, administration of foreign quarantine regulations, furnishing medical and sanitary advice to the U. S. Coast Guard, making studies of lighting of various Government offices, aiding the Customs Division in preventing violations of the quarantine act, issuing port sanitary statements to outgoing vessels, giving physical examinations and instruction in first aid to applicants for licenses as ships' officers, treatment of persons attached to vessels and stations of the Lighthouse Service and vessels of the Coast and Geodetic Survey, furnishing medical supplies to lighthouse vessels, making studies of occupational health hazards among employees of the Bureau of Standards, inspecting Government office buildings, studying problems of sanitation in the mining industry, aiding in administration of medical and sanitary service to the Indian Bureau, assistance in sanitary supervision of the national parks, medical examination of arriving aliens, physical examination of civil-service applicants, advising with regard to compensation and treatment of injured Federal employees, and many other services.

In addition, scientific studies have been made of many questions affecting the health of the people, among which may be mentioned: stream pollution, malaria control by spreading larvicidal dust over otherwise inaccessible breeding areas, health problems in industry, child health, milk, Rocky Mountain spotted fever, salt-marsh mosquitoes, nutrition, leprosy, trachoma, pellagra, pneumonia, epidemic encephalitis, typhus fever, vaccination sequelæ, narcotic addiction (previous conclusions have been confirmed that addiction is, in general, a symptom of neuropsychopathic make-up), parasites of man and other hosts, syphilis, method of action of potent drugs, oxidation, standard test substances for the potency of biologic products, etc.

THE MEDICAL SOCIETY

OF THE STATE

OF PENNSYLVANIA

Officers' Department

A. C. MORGAN, M.D., Sc.D., F.A.C.P.
President
2018 Chestnut Street
Philadelphia, Pa.

HERE AND THERE

A preliminary report received from the Commission on Cancer gives evidence of splendid activity by that group of faithful workers, and we know that their annual report will be of great value to the membership at large.

Appointment of committees of the county medical societies to work with the committee having in charge the arrangements for celebration of Child Health Week, from April 29th to May 4th, should be made at once if not already made. The names of the chairmen of such committees should be forwarded promptly to Secretary Donaldson. Much work of constructive value can be done by united effort at that time. Preventive medicine will thus be emphasized and health conservation demonstrated in practical manner.

The Allegheny County Medical Society deserves our best thanks for the splendid preparation made for defense of the medical profession against the claims of the cults as they appeared at Pittsburgh in January before the Freeman Commission.

Plans are in the making for active work to inform prospective candidates for the Legislature as to the aims and purposes of the medical profession looking to the protection of the health and lives of the citizens of our commonwealth. The committee on Public Health Legislation has a tremendous job ahead of it.

Special attention is invited to the two bulletins already published by this committee with a request that they shall be read in full at each county society meeting and turned over to the chairman of the local committee with instructions to open a personal campaign to interview potential candidates for office and to solicit their support of our cause.

With coöperation upon the part of each individual member, we should be able to put the lesson across in such manner as to let the legislators know that we mean business in combating the insulting charges which have been made and will be made by those who champion the specious claims of men and women who demand equal rights and privileges with those who are law observing, law abiding, and faithful in the discharge of their duty to the individual and to the best interests of the State.

A recent opinion delivered by the attorney general of Pennsylvania shows that all the chiropractic, naturopathic, and other cult schools in this State are running in illegal manner, are not qualified to confer degrees, and make such specious claims as to render them liable to prosecution by those who enroll with them, because of their inability to fulfill what they promise. A long-suffering public and the medical profession show signs of awakening to the menace of the cults in this State. It is up to us to put forth our best efforts to eliminate them for all time.

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade Building
Pittsburgh, Pa.

INCOME TAX DISCRIMINATION

When our Board of Trustees requested Senator David A. Reed to consider carefully the existing discrimination against physicians in interpretations of the income-tax law regarding deduction of travel expenses incurred in connection with attendance upon medical meetings etc., the Senator promptly responded as follows:

"Your telegram of January 6th came this morning.

"It raises the same question that we had up in the Revenue Law of 1926 and I feel now as I did then, that there is no reason for this discrimination against physicians."

Individual members of our Society desiring to contribute to the success of this proposal should address letters or telegrams to Washington, D. C., to Senator Arthur R. Robinson of Indiana, who has introduced into the Senate an amendment to the tax-reduction bill to insure to physicians the right to deduct, in the computation of their Federal income tax, travel expenses incurred in attending meetings of medical organizations. The likelihood of success is in proportion to the activity of the medical profession.

CANDIDATES FOR THE 1928 HONOR ROLL

On February 22, 1928, this office had received the annual assessment of 4,319 members; on the same day 1927, 3,763.

The percentage of 1928 dues received at this office February 22d from certain medical societies is herewith indicated: Clinton 100%, Elk 100%, Juniata 100%, Montour 100%, Wyoming 100%, Lebanon 94%, Bradford 92% Center 92%, Susquehanna 90%, Franklin 89%, Greene 89%, Monroe 89%, Montgomery 84%, Mifflin 81%, Schuylkill 80%, Huntingdon 77%, Warren 77%, Erie 75%, Delaware 73%, Clarion 72%, Cumberland 72%, Allegheny 71%, Dauphin 70%, Potter 70%, Columbia 69%, Wayne 69%, York 69%, Adams 68%, Lycoming 67%, Union 67%, Armstrong 66%, Northumberland 65%, Cambria 62%, Clearfield 62%, Butler 60%, Somerset 60%, Northampton 57%, Philadelphia 57%, Perry 56%, Berks 54%, Lehigh 50%, Snyder 50%.

All members desiring to continue in good standing for the benefits of the Medical Defense Fund should bear in mind that their State Society dues for the current year must be in the hands of the secretary not later than March 31st.

BOARD OF TRUSTEES MEETING

The Board of Trustees met in regular session at 230 State Street, Harrisburg, Tuesday, February 7th. Twelve members and ex-officio members were in attendance.

A report from the Publication Committee stated that the Journal arrangements, existing for five years between our Society and the Delaware State Medical Society, would be, upon mutual agreement, officially discontinued September 30, 1928.

Recommendations from Chairman Correll of the Committee on Public Health Legislation, regarding our continued efforts in the protection of public health, as well as the protection of state-aided hospitals in the matter of maintenance and continuance of their policy and methods of rendering service to the indigent sick and injured, were unanimously approved. A committee, consisting of the 1928 Public Health Legislation Committee and Chairman Sharpless and President-elect Simonton, was authorized to confer with a similar committee from the Pennsylvania Hospital Association.

A committee consisting of Secretary Donaldson, Councilor Litchfield, and President-Elect Simonton was created and given full power to act regarding publicity throughout the State in behalf of public education regarding medical education and state licensing standards.

All councilors present reported favorable reaction from the various component societies to the $2.50 increase in 1929 State Society dues.

The chairman of the Board of Trustees was instructed to express to the president of the Allegheny County Medical Society appreciation of the invaluable services rendered by members of the Society and the *Pittsburgh Medical Bulletin,* preceding and throughout the Pittsburgh hearing of the Freeman Commission.

X-RAY RELEASE BLANKS

Members are reminded that the Secretary of each county society, as well as the Secretary of the State Society, is prepared to forward, in response to requests, a legal release blank to be used when treating fractures, dislocations, or foreign-body cases in which it is impossible for any reason to obtain adequate x-ray pictures to assist in correct diagnosis and treatment. Any time within two years of your treatment of such a case, you may be sued for alleged malpractice. X-ray records in support of your diagnosis and treatment may prove invaluable.

CONTRIBUTION

Acknowledgment is made of the following contribution to the Medical Benevolence Fund of the Medical Society of the State of Pennsylvania, not previously reported in the Journal.

Damon B. Pfeiffer, Philadelphia, $5.00.

THE OPEN SEASON

The Westmoreland County Medical Society, with characteristic enterprise, announces the first of the district clinics or medical meetings to come to our attention for the spring, summer, or fall of 1928. The sixth annual clinic conducted by the Westmoreland County Medical Society will be held in Greensburg, Friday, April 27th. We anticipate that a thousand doctors in western

Pennsylvania, when they learn the date of this clinic, will immediately begin their plans, without knowledge of the program, to attend the clinic. It may be, however, that when it is known that the program for the 1928 clinic includes Drs. Harlow Brooks, John B. Deaver, Will Mayo, and A. C. Morgan, many more than a thousand will mark April 27th on their calendars as an open date.

We have already been notified that dates have been chosen for two councilor district meetings in the month of May, 1928, and we are looking forward with confidence to many successful, pleasant, and profitable district meetings.

RICHLY DESERVED RECOGNITION

On Saturday evening, February 11, 1928, the Pittsburgh Ophthalmological Society gave a testimonial dinner at the University Club, Pittsburgh, to Dr. Edward B. Heckel, who has just completed his fifteenth year of service to the Society as its president. Dr. Heckel was presented with a gavel, and his life of service to his community, his confreres, and the medical organizations with which he has been connected was reviewed in an address by Dr. George E. de Schweinitz of Philadelphia. Other guests from a distance included Dr. Alfred Stengel and Dr. Arthur C. Morgan of Philadelphia.

Immediately following the dinner, a meeting, which was attended by about two hundred physicians, was held in the University Club, at which a scientific program was presented by Drs. Stengel, de Schweinitz, and Morgan.

Members of our Society, familiar with the great contribution which Dr. Heckel has made to whatever success it has attained, as well as members of the American Medical Association, of whose Board of Trustees he has in more recent years served as chairman, will no doubt be pleased to learn of this recognition given Dr. Heckel by his fellow ophthalmologists.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to February 18:

ALLEGHENY: *New Members*—Allen W. Brown, 415 Warrington Ave., David L. Cooper, 623 Arch St., Allen M. Kerr, 1001 Fulton Bldg., William M. McWilliams, 1863 Shaw Ave., James C. Murdoch, 7228 Kelly St., Pittsburgh; Ellis L. Noble, 935 Pittsburgh St., Springdale; Hugo B. Paul, 422 Frederick St., Sewickley; George I. Yearick, City Home and Hospital, Mayview. *Removal*—DeForest E. Walters from McKeesport to Brookfield, Mo. *Resignation*—Acheson Stewart, Maple Springs, N. Y.

BEAVER: *Reinstated Member*—Chalmers B. Moore, New Galilee.

BERKS: *New Member*—Cecil F. Freed, 336 N. 5th St., Reading. *Transfer*—Ralph L. Hill, Wernersville, from Allegheny County Society.

CAMBRIA: *New Members*—Dennis E. Szabo, Revloc; William J. Killius, 425 Lincoln St., Johnstown. *Removal*—Stuart D. Scott from Johnstown to 118 Apple St., Connellsville (Fayette Co.).

CLEARFIELD: *New Member*—Nora M. Logan, McCrory Bldg., Dubois.

COLUMBIA: *New Member*—C. M. Hower, Bloomsburg.

CUMBERLAND: *New Member*—Benjamin E. Niebel, Lemoyne. *Death*—John E. Beale, Lemoyne (Medico-Chi. Coll., Phila., '07), January 23, aged 52.

DELAWARE: *New Member*—Ezra A. Whitney, Pennsylvania Training School, Elwyn.

ERIE: *New Members*—E. L. Armstrong, Hamot Hospital, J. A. Alleman, 137 W. 8th St., Joseph P. Egan, 714 Sassafras St., P. G. Mainzer, 2508 Myrtle St., Louise Brecht, 247 W. 8th St., Erie; Carl A. Karsh, North East.

FAYETTE: *Removal*—J. Richard Carothers from Waltersburg to Smock. *Death*—John C. Dixon, Connellsville (Univ. of Pitts. '08), November 27, aged 44.

FRANKLIN: *Transfer*—Florence M. Gottshall, Waynesboro, from Philadelphia County Society. *Resignation*—Charles C. Ogle, Chambersburg.

GREENE: *New Member*—Jesse Margolis, Nemacolin.

INDIANA: *Reinstated Member*—George R. Lyon, Heilwood. *Removal*—William A. Switzer from Dixonville to 21 So. Broad St., Ridgway (Elk Co.).

JEFFERSON: *Reinstated Member*—Harry Gourley, Punxsutawney.

LACKAWANNA: *New Members*—William J. Davis, 814 Mulberry St., Theodore Smith, Traders Bank Bldg., Harry M. Thomas, 319 Cedar Ave., Scranton; Frank J. Fox, 404 Main St., Archbald.

LANCASTER: *New Member*—Ellwood S. Queen, 425 N. Queen St., Lancaster.

LEBANON: *Transfer*—John G. Mengel, Trevorton, from Northumberland County Society.

LUZERNE: *Transfer*—Russell J. Hangen, Ashley, from Northumberland County Society; Mayo Robb, Hazleton, from Venango County Society.

LYCOMING: *Resignation*—Reuben H. Born, Montoursville. *Death*—William E. Glosser, Williamsport (Univ. of Penna. '93), February 13, aged 60.

MERCER: *New Member*—Donald Donley, Sharon. *Resignation*—William T. Ferris, Chicago, Ill.

MONTGOMERY: *New Member*—Herbert H. Fritz, Bryn Mawr. *Reinstated Member*—Morris H. Genkins, Norristown. *Removal*—Harry B. Fuller, from Phoenixville to 190 E. Plumstead Ave., E. Lansdowne (Dela. Co.).

MONTOUR: *New Member*—Harry C. Brown, State Hospital, Danville.

NORTHUMBERLAND: *Transfer*—Penrose H. Marquette, West End National Bank Bldg., Shamokin, from Greene County Society.

PHILADELPHIA: *New Members*—Michael D'Allesandro, 1935 Dickinson St., John V. Ellson, Jr., 258 So. 18th St., Herman S. Hepner, 2009 N. 22d St., Paul S. Seabold, Decatur & Darby Road (Upper Darby), Charles C. A. Banes, 2043 N. 12th St., Harry E. Bacon, 1527 Girard Ave., Samuel Bradbury, 423 W. Chelten Ave., Peter C. F. Castellani, 6500 Lansdowne Ave., Stanley O. Chambers, 3800 Chestnut St., Louis A. Dodies, 1801 N. 31st St., Albert A. Fine, 5946 N. 5th St., Peter Gannon, 1523 S. 10th St., Leonard C. Hamblock, 2230 S. Broad St., Lewis H. Hitzrot, 1826 Pine St., Philip S. Clair, 1811 W. 67th St., Emily L. Van Loon, 4705 Disston St. (Tacony), Frank D. Kilgore, 1029 S. 60th St., Edward T. Litt, 1902 S. 56th St., Virgil H. Moon, Jefferson Med. Coll., 10th & Walnut Sts., Alexander Margolies, 1832 Spruce St., Angelo M. Perri, 944 S. 8th St., Griffith J. Ratcliffe, Jr., 25 High St., Gtn., Henry L. Stick, U. S. V. Hospital, No. 49, 24th & Grey's Ferry Road, Howard C. Thompson, 4005 Chestnut St., Leroy M. A. Maeder, 6725 Ridge Ave., Louis

H. Weiner, 4025 Girard Ave., Francis D. Stokes, 4923 No. 11th St., Philadelphia. *Reinstated Members*—F. Mortimer Cleveland, 5100 Walnut St., James P. Inslee, 1509 Arch St., John B. Cardone, 327 N. 63d St., Abraham I. Rubenstone, 4236 Spruce St., George S. Crampton, 1819 Walnut St., Abram Levy, Somerset & Thompson Sts., Edward W. McCloskey, 7 E. Chestnut Ave. (Chestnut Hill), Benjamin M. McIntire, 4835 Baltimore Ave., Lynnley G. Smith, 1921 Diamond St., Calvin M. Smyth, Jr., 257 S. 21st St., Harry F. Tye, 2409 W. Lehigh Ave., Herman C. White, 751 Ormond Ave. (Drexel Hill), John G. Taylor, 2222 S. Broad St., Walton S. Burriss, 6645 Torresdale Ave. (Tacony), William O. Kleinstuber, 636 E. Indiana Ave., George Slonimsky, 730 W. Moyamensing Ave., Abraham Trasoff, 5907 Walnut St., T. Seydel Vaca, 727 N. 63d St., Philadelphia; Camille M. Shaar, c/o Postmaster, New York, N. Y. (U.S.S. Mercy). *Deaths*—George Hale, Haverford (Univ. of Penna. '70), November 8, aged 84; Henry C. Krieg, Philadelphia (Medico-Chi. Coll., Phila. '09), recently, aged 48; Leo F. Bradley, Philadelphia (Univ. of Penna. '08), January 4, aged 47; Frank W. Thomas, Philadelphia (Univ. of Penna. '80), January 19, aged 70; John N. Rhoads, Philadelphia (Jeff. Med. Coll. '85), recently, aged 69. *Resignations*—Morris J. Lewis, Ambler; Eugene Lindauer, Alfred J. Ostheimer, Horace Phillips, Mason W. Zimmerman, Philadelphia; R. Grant Barry, Byberry; Jacob Kaminsky, Corsica (Jeff. Co.); David Metheny, Rochester, Minn.; J. Ralston Wells, Daytona Beach, Fla.; Robert H. Dengler, Francis O. Allen, Anne Young, Philadelphia. *Transfer*—Ellen C. Potter to New Jersey State Society.

Schuylkill: *New Members*—Anthony M. Miller, St. Clair; Angelo A. Gallo, Russel F. Miller, Pottsville.

Tioga: *Removal*—Inman H. White from Lloyd to 103 S. Stratford St., Lansdowne (Del. Co.).

Warren: *New Member*—Hamblen C. Eaton, Warren.

Westmoreland: *New Members*—Walter R. Taylor, Darragh; George Toth, Bank Bldg., Yukon; Raymond A. Wolff, 1000 Fifth Avenue, New Kensington. *Deaths*—John S. Crawford, Greensburg (Hahnemann Med. Coll. '75), July 24, aged 75; James Q. Lemmon, Latrobe (Univ. of Penna. '82), January 20, aged 76; George W. Miller, Greensburg (Jeff. Med. Coll. '84), December 22, aged 70.

York: *Removal*—Francis B. Jennings from York to Capitol Bldg., Hartford, Conn.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since January 16. Figures in first column indicate county society numbers; second column, State Society numbers.

For 1927				
Jan. 24	Philadelphia	2112-2132	7727-7747	$95.00
For 1928				
Jan. 23	Wayne	1-20	1237-1256	100.00
	Center	13-14	1257-1258	10.00
	Dauphin	21-47	1259-1285	135.00
	Luzerne	35-51	1286-1302	85.00
	Venango	3-13	1303-1313	55.00
	Somerset	2-3, 5-17, 19-20	1314-1330	85.00
	Delaware	61-67	1331-1337	35.00
	Montour	22-23	1338-1339	10.00
	Allegheny	11-13, 20 201-580	1340-1723	1920.00
24	Susquehanna	1-15	1724-1738	75.00
	Adams	17	1739	5.00
	Susquehanna	16	1740	5.00
30	Lancaster	5-18	1741-1754	70.00
	Beaver	4-21	1755-1772	90.00
	York	39-58	1773-1792	100.00
	Montour	24-25	1793-1794	10.00
	Clarion	14-18	1795-1799	25.00
Jan. 30	Center	15-17	1800-1802	$15.00
	Delaware	68-74	1803-1809	35.00
	Bradford	21-30	1810-1819	50.00
	Huntingdon	3-19	1820-1836	85.00
	Dauphin	48-72	1837-1861	125.00
	Berks	11-76	1862-1927	330.00
Feb. 1	Cumberland	17-20	1928-1931	20.00
4	Northumberland	34-41	1932-1939	40.00
	Dauphin	73-81	1940-1948	45.00
	Mifflin	16-19	1949-1952	20.00
	Lebanon	1-31	1953-1983	155.00
	Adams	18	1984	5.00
	Luzerne	52-63	1985-1996	60.00
	Clinton	1-22	1997-2018	110.00
	Center	18-20	2019-2021	15.00
	Northampton	35-78	2022-2065	220.00
	Cumberland	21-22	2066-2067	10.00
	Montour	26	2068	5.00
	Franklin	28-37	2069-2078	50.00
	Montgomery	108-126	2079-2097	95.00
	Schuylkill	111-120	2098-2107	50.00
	Clearfield	21-24	2108-2111	20.00
	Erie	66-92	2112-2138	135.00
	York	59-80	2139-2160	110.00
	Lawrence	17-26	2161-2170	50.00
8	Juniata	3-9	2171-2177	35.00
	Schuylkill	121-130	2178-2187	50.00
	Cumberland	23-25	2188-2190	15.00
	Bradford	31-33	2191-2193	15.00
9	Allegheny	14-17, 581-826	2194-2443	1250.00
	Westmoreland	1-59	2444-2502	295.00
	Dauphin	82-101	2503-2522	100.00
	Center	21-22	2523-2524	10.00
	Lycoming	62-70	2525-2533	45.00
	Philadelphia	1-1207	2534-3740	6035.00
13	Lackawanna	1-76	3741-3816	380.00
	Luzerne	64-104	3817-3857	205.00
	Cambria	50-77	3858-3885	140.00
	Mercer	1-24	3886-3909	120.00
	Franklin	38-44	3910-3916	35.00
	Delaware	75-83	3917-3925	45.00
	Warren	1-24	3926-3949	120.00
	Montgomery	127-137	3950-3960	55.00
	Montour	27	3961	5.00
	Somerset	21-24	3962-3965	20.00
	Susquehanna	17	3966	5.00
	Erie	93-105	3967-3979	65.00

COMMITTEE ON SCIENTIFIC WORK

O. H. Perry Pepper, M.D., *Chairman*
Philadelphia, Pa.

GENERAL MEETINGS

Already the plans for the meeetings of the State Society next October have progressed far enough to guarantee that the programs will maintain and possibly excel the high level of recent years.

In the General Meetings a special effort is being made to arrange a program high in meat, low in gas. A presidential election year will see enough oratory without letting any cloud our scientific sessions.

There is something of special value in the papers and symposia presented at the general meetings of a society, and this value depends upon the fact that all such presentations must attack the subject under discussion from a broad, unspecialized point of view. There should be nothing said at a general meeting which does not interest and help every member of the society. It is with

this goal in view that our program this year is being formed. Eight brief case reports will occupy one period, a distinguished guest another, three periods will be taken up with papers on timely topics of extreme value, and one will be devoted to urgent matters in the field of public health.

Tuesday evening will see an innovation. Instead of the expensive and only moderately successful "smokers" of former years, it is planned to offer an evening meeting with two or more nationally famous speakers. The subjects of their addresses have not been definitely selected, but it is planned to choose subjects of wide general interest, while not stepping outside the bounds of medicine. This meeting should be a great success, and a large audience is expected.

Altogether, everything points to a wonderful session. All must come, for none can afford to miss it. On to Allentown in October, 1928!

CALL FOR VOLUNTEER CASE REPORTS

FOR THE

ALLENTOWN SESSION OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

OCTOBER 1 TO 4, 1928

GENERAL MEETING—8 Case Reports of 5 minutes each.

SECTION ON MEDICINE—8 Case Reports of 5 minutes each.

SECTION ON SURGERY—8 Case Reports of 5 minutes each.

SECTION ON PEDIATRICS—8 Case Reports of 5 minutes each.

SECTION ON EYE, EAR, NOSE AND THROAT—5 Case Reports of 10 minutes each.

SECTION ON UROLOGY—8 Case Reports of 5 minutes each.

For publication in the ATLANTIC MEDICAL JOURNAL, the 5-minute case reports will be limited to 1,000 words, and the 10-minute case reports to 1,500 words.

In the General Meeting and Sections on Medicine, Surgery, and Pediatrics, 15 minutes will be allowed for general discussion of these case reports, and 5 minutes for discussion in the Eye, Ear, Nose, and Throat Section.

Volunteer papers, with the titles and abstracts, will be considered by the Committee on Scientific Work on or before May 1, 1928, but the Committee reserves the right to reject a paper if it is not deemed of sufficient merit, or should it not fit in with the skeleton program tentatively planned at its February meeting.

Authors of papers and case reports should send in their titles and abstracts at once to the secretary of the section in which they want to appear, or to the Chairman of the Committee on Scientific Work.

GENERAL MEETINGS: Dr. O. H. Perry Pepper, Medical Arts Building, Philadelphia, Pa.

SECTION ON MEDICINE: Dr. Elliott B. Edie, 701 Citizens Title & Trust Bldg., Uniontown, Pa.

SECTION ON SURGERY: Dr. Damon B. Pfeiffer, 1822 Pine St., Philadelphia, Pa.

SECTION ON EYE, EAR, NOSE, AND THROAT: Dr. John B. McMurray, Washington, Pa.

SECTION ON PEDIATRICS: Dr. J. Gibson Logue, First National Bank Bldg., Williamsport, Pa.

SECTION ON DERMATOLOGY: Dr. Lester Hollander, Jenkins Arcade, Pittsburgh, Pa.

SECTION ON UROLOGY: Dr. Benjamin A. Thomas, 1900 Spruce St., Philadelphia, Pa.

County Society Reports

ALLEGHENY—JANUARY

At the regular monthly meeting held on January 17, 1928, the following program was presented:

J. S. Swan, M.D.: Some Considerations in the Diagnosis and Treatment of Goiter.—Only three types of goiter are commonly seen by the practitioner. The simple or colloid form is usually a disease of youth, frequently seen in adolescent girls, which produces a soft, diffuse enlargement of the thyroid, giving a fullness to the neck. This type usually responds to medical treatment, and may be reduced by iodin or thyroid preparations. The adenomatous goiter is the most common type, beginning in the young person, and producing an irregular nodular enlargement in one or both lobes. It is often symptomless until the age of thirty is reached; then hyperthyroidism may appear or degenerative changes may take place, and most cancers develop in this type of goiter. It may be treated by surgery, with as little destruction of gland tissue as possible, and the remaining colloid may be reduced by medication. In the patient with hyperthyroidism there is a tendency toward hypertension, and in the later stages toward myocardial degeneration.

In exophthalmic goiter the enlargement is noted five or ten years later than in the adenomatous type, and yet symptoms appear sooner. The thyroid, although very small, stands out more definitely and feels harder, firmer, and more granular than a nonhyperplastic thyroid. Thrills and bruits over the superior thyroid artery are present in about eighty per cent of the cases. The pulse pressure is high, and there is a tendency toward hypertension accompanied by the usual symptoms of true hyperthyroidism. The latter two types have lost their former place among fatal surgical diseases, due to medicosurgical teamwork. The mortality rate in adenomatous goiter is variously quoted, being as low as 3.5 per cent and in exophthalmic goiter slightly less than 10 per cent. In adenomatous goiter without hyperthyroidism the death rate is less than ½ per cent, indicating that it would probably be better to operate early.

R. R. Snowden, M.D.: The Diagnosis of Hyperthyroidism on the Basis of Clinical Signs and Symptoms.—The diagnosis of hyperthyroidism depends on certain well-recognized symptoms and signs and the increased basal-metabolism rate. The latter, although important, should be taken only after the essential and diagnostic signs and symptoms have been studied. In a series of 638 consecutive office cases, about 69, or 10 per cent, showed signs suggestive of a possible hyperthyroidism. Of these, 23 cases were finally diagnosed as hyperthyroidism, leaving 46 cases in which the suspected disease was not found. A study of the signs and symptoms lead to the following conclusions: (1) Symptoms and complaints described by the patient are of very minor diagnostic significance. (2) The physical signs are definite, and in most cases are conclusive. (3) The three cardinal symptoms of hyperthyroidism are: tachycardia (most reliable), tremor, and loss of weight, and the presence of all three is practically conclusive for the diagnosis.

M. A. Slocum, M.D.: Surgical Infections of the Upper Extremities and their Treatment.—This term includes infected wounds, palmar abscesses, tenosynovitis, felons, cellulitis, lymphangitis, paronychia, and lymphadenitis, the majority of which are interesting in the acute form. At least a superficial conception of surgical anatomy of the upper extremities is essential if these infections are to be properly managed and treated. The complications that may arise are numerous and too well known to be mentioned here. It is unfortunate that neglect, delay, and a deplorable lack of knowledge of the essentials are directly responsible for most of the grave complications that may arise.

The treatment is divided into: (1) Local—(a) Rest—absolute confinement to bed, with rest for the entire upper extremity. (b) Elevation of parts, placing the arm in abduction on an inclined plane of at least 45 degrees. (c) Voluminous wet dressings, which should be kept moist by using only antiseptic solutions such as boric acid, etc., and avoiding circular bandages. All dressings should be moistened at three- to four-hour intervals. (d) Operative procedures. Incisions are delayed until suppuration is certain. (2) Systemic—Water in large quantities is indicated (about 1,500 to 3,000 c.c. per 24 hours). Diet should be high in carbohydrates in order to spare the liver glycogen. Little importance is to be attached to the care of the bowels. Purging should be avoided, as it produces dehydration.

Conclusions: (1) Infections of the upper extremities are commonplace. (2) Grave symptoms are too often overlooked. (3) Simple basic principles are advised in the treatment. (4) Delayed convalescence may be the price paid for neglect. (5) Coöperation of the patient is essential for a good end result.

J. H. Barach, M.D.: Hypertension—Nephritis—Appropriate Treatment.—The responsible factor in hypertension remains unknown, although the various pathologic states with which it is associated are widely different. This condition is associated with arteriosclerosis, nephritis, cardiovascular diseases, menopause, endocrine disturbances, infections, intoxications, and senility. It is present in as many patients with low or normal blood pressures as in those of high blood pressure. Allen formulated the theory that salt metabolism is the cause of hypertension. There appears to be a definite relationship between the mode of life and hypertension, and "nervous life," "discordant life," etc., have been designated at one time or another as etiologic factors. Ultimately, hereditary or constitutional qualities of the tissues may be expected to answer the etiologic questions, which will include a study of the anatomic, physiologic, immunologic, and psychologic factors of the human life cycle.

The treatment consists of removal of strain, administration of sedatives, reduction of work periods, increase of rest hours, correction of associated constipation, and diet regulation, including the sodium-chlorid intake. The aim should be to establish a hygienic mode of living and to restore the patient to as near normal as possible, removing all sources of infection, and maintaining complete elimination, with an increase in the body rest period.

L. G. Beinhauer, M.D., *Reporter.*

CAMBRIA—JANUARY

At the January meeting the following officers were elected: President, R. J. Sagerson; president-elect, J. D. Keiper; first vice-president, K. A. Bowman; second vice-president, W. B. Templin; secretary-treasurer, Joseph J. Meyer; censor, W. O. Lubken; trustee, H. F. Tomb; reporter, H. B. Anderson. With this election, the society inaugurated a plan to have the president and president-elect serve each year. Dr. Sagerson was named president, while Dr. Keiper was named president-elect, and will assume the presidency in 1929. Under this plan, only a president-elect will be named each year.

Having passed the age of 70, three members of the society automatically became life members: Drs. W. J. George, W. N. Pringle, and D. E. Fisher. The secretary's report brought out that during the year the average attendance was sixty, thirteen new members were added, and four were lost, three by death, and one by transfer.

Announcement was made of an arrangement with the University of Pittsburgh for a postgraduate course in medicine to be given in Johnstown hospitals during the early part of the present year. Dr. Pardoe said that the officers were indeed gratified at the ready response of the members when subscribers to the course were sought. The arrangement was made partly as a result of solicitation of the University and partly because of a demand by the members. The clinics will be given alternately at Mercy and Memorial Hospitals, beginning with a demonstration and lecture at Memorial Hospital by Dr. Harold A. Miller, professor of obstetrics at the University of Pittsburgh, on "The Care and Treatment of Prëeclamptic and Eclamptic Patients." About 65 members of the society have enrolled for the course, and others may do so through Secretary Meyer. Seven clinics will make up the course, the first five demonstrations being as follows: *January 31,* Dr. R. R. Huggins, dean of the University of Pittsburgh Medical School, "The Cervix as an Important Factor in the Health of Women." *February 14,* Dr. James A. Heard, "Medical Diagnosis." *February 28,* Dr. Z. R. Scott, "Some Problems in Pediatrics." *March 13,* Dr. Robert L. Anderson, "Genito-urinary Diseases." The concluding clinics will be held on March 27 and April 10, that in March to deal with surgery, and the final one with neurology. As yet, no assignments have been made for these clinics.

H. B. Anderson, M.D., *Reporter.*

CLINTON—JANUARY

The annual banquet was held at the New Hotel Fallon, Lock Haven, on January 27, 1928. Following the banquet the regular monthly meeting was held, and officers were elected for the year. Dr. W. J. Shoe-

maker, vice-president, presided, and presented the newly elected president, Dr. John Dumm, of Mackeyville, who addressed the society on the future possibilities of medicine.

Dr. Thomas G. Simonton, president-elect of the State Society, spoke on the workings of the Freeman Commission, and outlined its purposes. Dr. W. S. Brenholtz, of Williamsport, councilor of the district, discussed the relation of the individual member to the State Society. Dr. R. B. Hayes, of Jersey Shore, spoke on public-health clinics.

A number of visiting doctors from neighboring counties were present.

ERIE—FEBRUARY

The February meeting was featured by an address on the "Early Recognition of Syphilis of the Central Nervous System and Its Treatment" by Dr. John L. Eckel, neurologist of the Medical School of the University of Buffalo, N. Y. The meeting was well attended.

Dr. Eckel said that as syphilis is a disease of insidious onset, the physician should always be on the lookout for it. Syphilis of the nervous system in its late stages is being reduced through the early recognition of the disease. This manifestation may be started at the time of the primary lesion, yet the patient may not have a history of primary sore, and there may be none or very light secondary lesions. If both primary and secondary lesions are present, infection of the nervous system may start during either stage, with advanced changes later, being quite progressive. It is to be remembered that not every primary lesion produces a positive Wassermann, the dark-field examination being more diagnostic, though ten days later a positive blood test may be obtained.

Usually, all syphilis of the nervous system occurs during the secondary stage, which is proved by the lumbar puncture taken after the appearance of the rash. If there are no fluid changes at this time, in all probability the patient will never have nervous-system involvement. A patient should never be discharged after one, two, or three courses of antisyphilitic treatment without doing a lumbar puncture to be sure that there is no extension to the central nervous system. Proper treatment will save later extension. Very likely, syphilis of the nervous system is a blood-borne disease.

Nervous-system syphilis first involves the meninges, and is vulnerable to treatment; hence the reason for a spinal puncture after a course of treatments before complete discharge of the patient. Sudden ptosis, blurring of vision, impaired hearing, etc., indicate that the lesion is beyond the meninges; that degeneration is present; and that the condition has progressed to the meningovascular type, which is the most common infection of the nervous system, the best for treatment, and gives the most gratifying results. It may take three to forty years to show these symptoms.

Other manifestations of early involvement of the nervous system are restlessness, change of personality, irritability, muscle twitching, sleeplessness, lack of endurance, and later, double vision, ptosis, unequal pupils, failure to react to light, and reflex changes. With these findings the condition is verified by positive blood and spinal-fluid Wassermanns. Another type of onset may be characterized by sudden loss of speech, twitchings, convulsions, and stroke, along with pupillary changes, headache, double vision, etc., proved by positive blood and spinal-fluid tests. A lumbar puncture should be done regardless of age. A stroke in a person under forty years of age may very likely be syphilitic. In considering the diagnosis of syphilis of the central nervous system, conditions to be eliminated are brain tumor, hysteria, vascular diseases, and congenital vascular disease with thrombosis.

Specifically, tabes, posterior spinal sclerosis, is classified in five types: the primary, or optic atrophy, cervical, dorsal, lumbar, and sacral. The crises of tabes are very difficult to treat, and may be controlled by the use of chloral and chloretone. The use of morphin has not been successful, and oftentimes leads to addiction. The Argyll Robertson pupil is present in about seventy-five per cent of tabes cases, although not absolutely diagnostic, for it may also be found in lethargic encephalitis, chronic alcoholism, etc.

In the consideration of paresis, its early recognition is difficult. It is interesting to note that tabes may show a negative blood in about thirty-five per cent of the cases. The delayed hereditary syphilitic infections of the central nervous system are the same as the acquired in their late manifestations, and yield to treatment.

As to the treatment, the general routine for syphilis is given, with eight to ten treatments of salvarsan along with mercury and the iodids, with rest in between courses. This routine should be repeated two or three times, if necessary, and a lumbar puncture done as a final precaution. If the spinal fluid is negative after the treatment, in all probability there will be no central-nervous-system infection. However, the blood should be examined at least yearly. In the meningovascular type of infection, the intravenous medication is combined with the Swift-Ellis treatment. In tabes, the combined intravenous and intraspinous treatment is employed early, along with mercury. The newly adopted malaria treatment is used in paresis for six to eight weeks. Ten to fifteen chills are usually permitted, the number depending upon the resistance of the patient. This treatment is not entirely curative, but has been of benefit in many cases. Tryparsamid is used in paresis also, but there is great danger of eye injury. The vision should be checked after each treatment. Incidentally, this drug has been of value in the treatment of chorea in children.

In the discussion, Dr. Weibel emphasized the need of blood and spinal-fluid Wassermanns in the diagnosis of unaccountable abdominal pain; and Dr. Armstrong the importance of frequent and repeated lumbar punctures before patients with syphilis are discharged as cured. He also spoke of the concential eye reflex and its significance. Dr. Drozeski stated that a negative blood Wassermann during the primary stage of syphilis was misleading, for at times patients had appeared with the sore cauterized and were pronounced cured who later gave positive tests. How to obtain the malarial subjects and cultures was asked by Dr. O'Brien; and Dr. Fust asked whether treatment of syphilis is of benefit in optic atrophy.

Dr. Eckel, in closing, replied regarding malaria treatment that during the chill of a malaria patient, five to eight c.c. of blood are withdrawn and injected under the skin of the recipient. Syphilitic treatment does not improve optic atrophy, although it may arrest the progress temporarily. In the case of an early Wassermann-fast blood, there is usually some other system of the body involved, or else it is an old rebellious case which does not yield to treatment.

Other items of interest at this meeting were as follows: L. H. Moulton introduced and explained the new certified-milk dairy on the Swan Farm operated

by George Taylor. Dr. Smith reported that the committee has placed in the new municipal Lakeview Hospital a memorial tablet in honor of the late Dr. John W. Wright, for many years city health commissioner. Hereafter, in the well-baby clinics of Erie, no formulas or prescriptions will be given until the patient has been thoroughly studied, was the report of Dr. Washabaugh as a result of a recent meeting of those interested in these clinics. They have been much abused in Erie; hence the action.

On February 13th the board of directors of the Zem Zem Home for Crippled Children entertained the active and associate members of the Hamot Hospital at dinner, followed by an inspection of the hospital. The staff was invited to act as staff of the Sunshine Home, and accepted. This dinner was the first meeting, at which about sixty were present.

A woman's auxiliary has been organized, of which a full report will appear in the columns of the Journal devoted to this organization.

Norbert D. Gannon, M.D., *Reporter.*

FAYETTE—FEBRUARY

Dr. William W. G. Maclachlan, Pittsburgh, was the guest of the society on February 2, at a meeting held in the society rooms of the Uniontown Hospital. In his address, Dr. Maclachlan stressed the importance of supplying inorganic iron in the form of liver for the treatment of pernicious anemia, and mentioned the liver extract newly put on the market, which may be used effectively in patients who dislike a liver diet. He discussed the use of glucose in pneumonia, stating that this form of treatment is especially valuable as a means of stimulating the heart muscles. The 25-per-cent glucose solution is given intravenously three times daily. Two to three hundred c.c. can be given in about one hour's time. Other subjects mentioned briefly included the treatment of migraine with whole-gland pituitary extract, cardiac edema with salyrgan, and polycythemia with phenylhydrazin.

A social hour followed, with refreshments and moving pictures shown by Dr. H. A. Heise.

C. F. Smith, M.D., *Reporter.*

LUZERNE—JANUARY

A regular meeting was held January 4 in the Medical Building, with President M. B. Ahlborn in the chair.

George P. Müller, M.D., Philadelphia: Acute Empyema.—I have not seen a streptococcus empyema since 1919 which was typical of the streptococcus influenzal empyema of that time. There are many streptococcic infections, especially in children, but the "empyemas" reported here are not empyemas, but streptococcic infections with effusion. To distinguish between the streptococcic, pneumococcic, and staphylococcic infections, it is necessary to tap. If streptococci are present, it is probably effusion and not empyema. If staphylococci are present, which is not usual, there is probably an abscess. If pneumococci are present, it is true empyema.

If operation is done before the pneumonia has subsided, the mortality is high; if it is done after the pneumonia has subsided, the mortality is low. When the chest is opened, the same pressure is exerted by the atmosphere on the sound side as on the opened side. If the pus is not thick and loculated, there is apt to be extreme pressure exerted on the heart, mediastinum, and sound lung.

The treatment consists in doing the least that can be done in the particular case to give drainage. This may mean simply tapping on the first day, with the next day probably an inter-rib trocar drainage. This is also done with a catheter. The cure is not complete with emptying and sterilization of the cavity; it must be obliterated. The ordinary inter-rib drainage is done under local anesthesia. In some cases it is necessary to give a little gas when the periosteum is scraped off.

If a catheter drainage does not produce improvement in two weeks, as shown by x-ray, a rib resection is done. During the two weeks the cavity is sterilized every two hours with Dakin's solution, using an Asepto syringe to aspirate the cavity and then to inject the solution. Dakin's solution may cause a cough; hence on the first day use simply boric-acid solution, and on the next day use Dakin's cautiously. If coughing is caused, this means that there is a bronchial fistula which will require earlier rib resection.

If early and careful treatment is given, the mortality should be low, and in few cases need the lung collapse. The heavy mortality is in children under two years of age. Cure is determined by smear. After four weeks all irrigation should be stopped, and a smear made. If no organisms are found, it is repeated in twenty-four hours. If organisms persist, something more than catheter drainage must be done.

In chronic cases, the cavity is first outlined with 20-per-cent sodium-iodid solution, then the chest wall is collapsed to obliterate the cavity. This is Sauerbruch's operation of cutting through the fifth to the tenth ribs near the spinous attachments. If that does not succeed, a portion must be resected anteriorly. Decortication is rarely done now.

In abscess of the lung, the etiology is grouped thus: (1) post-tonsillectomic, by the blood stream; (2) foreign body; (3) following infections of the upper air tract. Lung abscess is essentially a nonsurgical disease in 30 to 40 per cent of the cases. It requires rest in bed for a month or more, postural drainage, and perhaps creosote or arsphenamin for the fetid breath. Bronchoscopy at weekly intervals is desirable. A lung abscess which lasts any length of time is associated with bronchiectasis. An outline can be made with lipiodol. External drainage will not cure cases of bronchiectasis. They must be kept open, and the various small fistulæ, etc., are cut open from time to time with the cautery. If there is much pneumonitis present aside from the abscess, surgical treatment is not desirable until the pneumonitis has cleared up. The operation consists of excising one or two ribs and packing the lung to produce adhesions. After four or five days the cavity is then opened with the cautery.

Dr. Mengel.—One of the most important things Dr. Müller has made plain is the stage at which children developing empyema should be operated upon. Many lives have been lost because we did not know or were careless. We profited greatly by the experience gained during the war.

Dr. Long.—The tendency of the medical man, as well as the surgeon, is to advise operation as soon as empyema is recognized.

Dr. Müller.—I hope I did not give the impression that we do not operate in empyema with pus in the chest. The point is that there is a time when conditions are best and mortality can be lowered. In empyema of the ordinary pneumococcic type, one must prepare for operation. Just because there is pus in the chest does not mean that operation must be done. If there is pressure, aspiration will relieve it for the time,

and the patient can be built up. If an operation is done at the proper time, is perfectly good, and gives good drainage, it should be considered a success even if the patient dies, for there may be streptococcic infection at other places at the same time, as in the middle ear, meningitis, etc. Do not blame it always on the empyema.

The forty-fourth annual banquet was held January 11, at the Westmoreland Club, with 120 members in attendance. The speaker of the evening was Lieutenant-Governor Arthur H. James, who spoke eloquently on the need and desirability of tolerance in the medical profession, of broadmindedness and appreciation of the other man's viewpoint. He was followed by Drs. Stewart and Taylor, for whom the dinner was, in a way, a farewell. They sailed three days later on the *Laconia* on a round-Africa Cruise. President G. R. Drake spoke of the activities of the society during the past year. He was followed by President-Elect M. B. Ahlborn, who spoke of the program for 1928.

Lewis T. Buckman, M.D., *Reporter.*

PHILADELPHIA

January 25, 1928

The president, Dr. I. P. Strittmatter, in the chair.

Harold A. Miller, M.D., Pittsburgh: The Preëclamptic and Eclamptic Woman; Clinical Course When Treated with Heparmone (Liver Extract).—The subject of eclampsia is highly controversial, and methods of treatment have varied from the very conservative one of Stroganoff to the more radical measures of emptying the uterus. The greatest advance that has been made in the field of obstetrics is the development of prenatal care. In 1925, Major, of Kansas City, worked with liver extract in hypertension cases. Because the liver is so often found to be pathologic when eclampsia cases are brought to autopsy, the speaker wondered whether or not the liver might be responsible for the hypertension found in this condition, and Dr. Martinez, with this in mind, went to Kansas City to discuss the subject with Major. As a result, an arrangement was made with Eli Lilly to make heparmone—an alcoholic extract of fresh livers free of histamin and containing but 1/100 gr. of a guanidinlike substance per c.c. In October, 1926, the use of heparmone in the treatment of preëclamptic and eclamptic women was begun, and up until October, 1927, 180 preëclamptic women (judged by objective and subjective symptoms) and 25 actually convulsing women had been so treated.

[For the full text of this paper, see page 141, December, 1927, number of the Atlantic Medical Journal.—*Editor.*]

Discussion

Dr. Collin Foulkrod: As yet I have not been able to secure heparmone. Where, in the scheme of toxemias, does this extract come? Theories of the causes of toxemia have been varied and numerous. One pathologic fact alone is constant: there is always a necrosis of the portal area of the lobules of the liver. Therefore, it would seem logical to protect this area. Demands on the pregnant woman are in excess of those made by any disease, and frequently there is a disturbance in both the glycogenic and detoxicating functions of the liver. The rapid increase in muscular activity renders the liver glycogen poor, and unless the intake of carbohydrates is increased the woman becomes toxic. The glycogen-poor liver is limited in function, and excess meat in the diet may lead to the formation of histamin and guanidin unless glycogen for oxydizing and detoxicating purposes has been supplied by the glucose treatment. Liver hormone for the development of liver protection is a rational therapy. Mann and McGrath, of Rochester, found that grape sugar would act as liver hormone after hepatectomy to control the paucity of glycogen and relieve the toxins from the portal circulation. He thinks possibly many of the nephritic cases are secondary, and does not diagnose this complication until two months after delivery. The treatment of these cases by injections of liver extract constitutes a remarkable stride in obstetrics. It bids fair to prove of inestimable value in the control of the toxemias of pregnancy when diet and hygiene cannot control degeneration.

Dr. Edmund B. Piper remarked upon our ignorance of the etiology of eclampsia, and cited the best mortality figures in this condition up to this time as four per cent. He is glad to see a return to the old methods of simple blood-pressure observations and urinalyses, and would advise, in addition, examination of the eye grounds. He thinks most cases combine the nephritic and hepatic elements, and considers those with a low blood pressure, in whom convulsions occur postpartum, most serious. The cause of death he ascribes, not to cerebral hemorrhage, as MacPherson has suggested, but to exhaustion and cardiac failure. His method of treatment has, up until now, been guided by the case—whether sedative, eliminative, operative, or the three combined. Now, if heparmone stands the tests, we have an advance as great as the discovery of quinin in treating malaria.

Dr. B. C. Hirst was profoundly impressed by the paper, and believed it the greatest contribution toward the therapy of eclampsia he had yet heard. It promises an antidote.

Dr. P. Brooke Bland had been much impressed with recent papers by Dr. Miller. He asked whether or not the investigations in regard to blood chemistry correspond with the findings of Dr. Titus; that is, that there is a constant reduction in blood sugar. We may hope for a more specific therapy when empiricism may be discarded through a discovery of the etiology of eclampsia.

Dr. John A. McGlinn had seen few cases of eclampsia lately because of that greatest advance in obstetrics, modern prenatal care. He asked whether the effects of heparmone are due to specific action or, as from magnesium sulphate, a reduction of blood pressure.

Dr. Walt P. Conaway, of New Jersey, had had no experience with heparmone, but had found intravenous glucose wonderfully beneficial.

Dr. J. O. Arnold thought this the simplest and most effective treatment yet introduced, and asked how the substance may be obtained.

It was suggested that just as we knew how to treat syphilis and malaria before we knew their causes, so here we may have a remedy. How is the dosage measured in the absence of a high blood pressure? It was questioned what relation the extract prepared by Lilly for the treatment of pernicious anemia has to heparmone, and whether or not it can be given orally.

Dr. S. E. Tracy asked whether the speaker had used heparmone in high blood pressure in cases not pregnant.

In closing, Dr. Miller said that heparmone has not been tried by mouth, and he has been urging Lilly to prepare the substance in greater quantity so that a series of 1,000 consecutive convulsing women could be treated, thoroughly to test it out. The blood chemistry he has found disappointing. He tried to supply what was lacking, due to liver necrosis. The amount given

is based not wholly upon blood pressure, but upon urinary output as well.

Mary A. Hipple, M.D., *Reporter.*

WASHINGTON—JANUARY

The first meeting of the new year was conducted in the dining room of the Washington Hospital on January 11, 1928. There was a large attendance. The retiring president, Dr. J. F. Donehoo, of Washington, was in the chair. The most important business was the adoption of the amendment to the by-laws which permits any legally licensed practitioner of medicine who is acceptable by the American Medical Association to become a member of the county society without waiting until he has practiced for one year. The old ruling worked considerable hardship on the young physicians who desired to associate themselves early in their practice.

The following officers were elected for the ensuing year: president, J. C. Kelso, Canonsburg; first vice-president, L. D. Sargent, Washington; second vice-president, H. J. Repman, Charleroi; sec-treas., C. C. Cracraft, Claysville; censor, W. L. Scott, Burgettstown; reporter, C. A. Crumrine, Washington; librarian, G. B. Woods, Washington.

Dr. W. S. Fulton, chief of the Wheeling Clinic, Wheeling, W. Va., read a paper entitled "Observations on the Gall-Bladder Problem," written from personal experiences and fearlessly approaching the problem from all sides. He first mentioned that we are now called to diagnose gall-bladder conditions very early, and rarely do we see far-advanced cases. The most prominent early symptoms are those of dyspepsia rather than pain localized at the gall bladder. He discussed the value of cholecystography in the diagnosis of gall-bladder pathology, and felt that at their clinic it had been of a very great deal of value. He believes that the intravenous method of dye administration has considerable advantage over the oral method. Very careful technic in the administering of the dye has apparently removed all untoward reactions previously observed. In the last series of one hundred operated cases so studied, there has not been a single reaction, and the diagnoses have all been justified at operation. He feels that the study of gall-bladder bile and of stomach contents is of comparatively little value for the accurate diagnosis of gall-bladder disease.

Dr. Fulton then discussed the technic of gall-bladder surgery, and laid great stress on accurate preliminary study and preparation for operation. He thinks that many of the fatalities of cholecystectomy can be avoided by careful study and careful preparation of the patient. He stated that preoperative blood transfusions should be done frequently. Many deaths are due to hepatic insufficiency. Finally, he showed pictures illustrative of his technic of cholecystectomy. He still adheres to the use of a small drain routinely.

Dr. William Kalbfleisch, roentgenologist of the Wheeling Clinic then showed pictures taken by the technic, and described the procedure. He demonstrated the various pitfalls which must be avoided in the interpretation of the plates.

The subject was discussed by Dr. F. J. L. Hupp, of Wheeling, and the technic of the intravenous administration of the dye described by Dr. Shepp, of the Wheeling Clinic.

C. A. Crumrine, M.D., *Reporter.*

YORK—FEBRUARY

The February meeting was held on the 3d in the Professional Building.

H. M. Read, M.D., York: Nontuberculous Lung Diseases.—The majority of chronic lung cases are due to tuberculosis, and the presence of a specific lesion should be thoroughly investigated. Lung abscess is often confused with tuberculosis. Abscess is generally secondary to pneumonia, foreign body, or tonsillectomy, and is usually found at the base of the lung, while tuberculosis occurs at the apex. Repeated sputum examinations must be made by a competent bacteriologist. The cardinal features of the treatment are drainage, compression, and destruction.

It is often very difficult to differentiate between tuberculosis and bronchiectasis. The advanced picture of clubbed nails, cyanosis, three-layer sputum (froth, mucus, and pus), fetid odor, paroxysmal cough, and dyspnea of advanced bronchiectasis is easily recognizable, but the differential diagnosis is difficult in the early stages. The newer x-ray method in which iodized oil is injected into the trachea is a great aid. I believe that bronchiectasis is a fuso-spirochetal disease, the spirochete causing a dilatation of the bronchi similar to the dilatation of the aorta by the treponema in aneurysm. The source of the infection is generally in the teeth. When the teeth of my patients suffering from bronchiectasis were examined, a spirillum associated with the fusiform bacillus was generally found. The treatment is unsatisfactory. Cauterization of the lung, drainage with the bronchoscope, and lobectomy have been tried, but extrapleural thoracoplasty with preliminary pleural-nerve resection offers the most help.

Dr. J. F. Lutz, of York, showed a series of x-ray slides demonstrating the presence of lung abscess and bronchiectasis. He explained the method of injecting iodized oil into the trachea, and emphasized the fact that this medium will prove as valuable in chest examinations as sodium iodid has in kidney, and bismuth in gastro-intestinal examinations.

Dr. Turnbull, of the Pennsylvania Health Department, opened the discussion. He emphasized the necessity for frequent sputum examinations, and divided bronchiectasis into three groups—early, moderately advanced, and advanced. He hopes that by means of the iodized-oil x-ray the early cases can be recognized so that later changes may be averted.

Dr. Charles Rea, of York, stressed the possible dangers in intratracheal oil injections.

Milton H. Cohen, M.D., *Reporter.*

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

Mrs. E. Kirby Lawson, *Editor,*
2533 Walnut Street, Harrisburg, Pa.

ACTIVITIES OF COUNTY AUXILIARIES

Replies to Letters from the Editor

In a letter recently sent by the editor to all county auxiliaries, a request was made that all news of their activities be mailed so that it would be received not later than the 5th of each month. If meetings are not held monthly, the auxiliaries were asked to send a report whenever one is held,

stating what has been done or is contemplated, as this will be of interest to all auxiliary members. The hope was expressed that a reply would be received from every auxiliary in the State.

To this letter, the following responded:

ALLEGHENY—The midyear meeting was held in the Blue Room of the William Penn Hotel, January 24, 1928, with the president, Mrs. John F. McCullough, in the chair, and with 150 members in attendance. The treasurer reported a checking balance of $558.70, a savings account of $329.04, and a trust fund of $208.92, with all bills paid to date and the check to the Allegheny County Medical Society deducted. The report of the bridge party held December 5, 1927, was as follows: total receipts $908.10, total expenses $351.77, leaving a balance of $556.33. The executive board voted to add a sufficient amount from the checking account to increase this balance to $600, and a check for this amount was immediately sent to the county medical society. It was voted to accept the recommendation of the board that "$1.00 per each paid member be given to the Medical Benevolence Fund of the Medical Society of the State of Pennsylvania, the same to be given when we pay our dues."

The State Auxiliary president, Mrs. Charles H. Smith, of Uniontown, was the guest of honor, and she presented the year's plans for the activities of the State Auxiliary.

The business meeting was followed by a program. Dr. Luba Robin Goldsmith gave a brief talk on the Freeman Commission hearings, and Miss Ella Ruth Boyce spoke on "Preschool Education." Mary Osborn Ludwig's art of entertainment, Mrs. Isaac Davis's piano selections, and Mrs. Elsie Breese Mitchell's soprano solos were greatly enjoyed. A tea followed, with Dr. Goldsmith and Mrs. Joseph V. Grahek presiding.

The membership of the Allegheny County Woman's Auxiliary numbers 235, placing it first in the State in membership.

BERKS—*Inactive.* No meeting since last fall.

BUCKS—This auxiliary has two meetings a year, in May and November, at the same time as the county medical society, and a joint dinner is served. The meetings are mainly social in character. When organized, the doctors requested readiness to undertake any work they should assign, and as yet there have been no calls from them.

BEAVER—Meetings are held the first Friday in March, June, September, and December. The membership is 63, and growing steadily. The activities for the year consisted of one bridge tea which was a wonderful success. The campaign for *Hygeia,* in which this organization had the largest number of subscriptions, won the prize of $25 in gold. A higher goal has been set for this year. The auxiliary contributed to the Medical Benevolence Fund, and is intensely interested in every phase of the work.

CHESTER—There is nothing special to report. We have had three or four meetings a year, the last one in October.

ERIE.—The Woman's Auxiliary to the Erie County Medical Society was organized on February 10th, at a dinner at the Y. W. C. A. in Erie. Seventy-five wives of the local physicians were present, and all were very enthusiastic about the plans and work outlined. The meeting was addressed by Mrs. Charles H. Smith, of Uniontown, State president, and Mrs. J. A. Johnston, of Pittsburgh, who described methods of organization, and discussed the aims and ideals of the Auxiliary.

The following officers were elected: president, Mrs. G. A. Studebaker; first vice-president, Mrs. T. Palmer Treadway; second vice-president, Mrs. Charles Strickland; recording secretary, Mrs. Charles McNeil; corresponding secretary, Mrs. Maxwell Lick; treasurer, Mrs. W. M. Washabaugh. The Committee on Constitution is composed of Mrs. J. A. Stackhouse, Mrs. Merle Russell, Mrs. William Rouche, Mrs. E. G. Shelly, of North East, and Mrs. H. Ghering, of Edinboro.

The first regular business meeting will be held on March 2nd. Arrangements are being made to take an active part in the State Meeting in Allentown next October, and to entertain in Erie in 1929.

FAYETTE—Report for 1927: We have fifty active and six honorary members. Eight regular meetings, one public meeting, and eleven lectures were held. We sent in thirty *Hygeia* subscriptions, and gave $25 to each of the following hospitals: Connellsville, Brownsville, and Uniontown; bought a $10 health bond; sold $300 worth of Red Cross seals; spent $125 outfitting the children at Cresson; and also gave private donations to our local committees. We assisted our State Senator, Dr. Harry Bell, in legislative activities. A party was held for ninety tuberculous children at the country club in the summer.

Report for 1928: Three meetings have been held, at one of which a tuberculosis skit was put on by the local high-school boys. A delightful party was held for our new State president, Mrs. Charles H. Smith.

At Christmas the Auxiliary gave $125 to Cresson, and again bought a $10 health bond. Four subscriptions to *Hygeia* were sent in.

Our object has been to secure a county tuberculosis hospital. In this we have been successful, and we hope to get it started this summer. We are greatly interested in the Medical Benevolence Fund, and plan to help increase it.

INDIANA—Inactive since organization about three years ago, though plans are being made for reorganization in the very near future.

LYCOMING—The auxiliary held a very delightful and also profitable card party and supper dance at the Lycoming Hotel in Williamsport on January 6th, making $745, and bringing into closer touch the members of the auxiliary and the medical society.

The January meeting was held at the Woman's Club in Williamsport on the 13th, Mrs. L. E. Wurster presiding. At that time plans were made for a card party on the 20th at Mrs. A. F. Hardt's home in Vallamont. A luncheon preceded the meeting. The card party proved to be a real success, with 28 tables of bridge in the afternoon and almost as many in the evening. Coffee and sandwiches were served. The receipts amounted to $215.

The proceeds from these affairs will be used towards the $2,000 pledge made to refurnish an eighteen-bed ward in the hospital.

MONTOUR—No longer functioning.

MONTGOMERY—A meeting has not been held since fall, but the annual meeting, which will be held some time in February, is always very interesting, and a report on it will be sent in later.

NORTHAMPTON—This organization is quite young, having been a county auxiliary only since June, 1927. Monthly meetings are held on the fourth Wednesday. These are usually luncheon meetings, followed by either card or theater parties. Plans for constructive and educational work are being outlined.

POTTER—This organization has nine members. The

annual meeting is held in July of each year, gathering jointly with the county medical society. A banquet is held at noon, followed by the business meeting. The towns are so far apart that monthly meetings have not been tried. The officers are: president, Mrs. John H. Page, Austin; vice-president, Mrs. James Hurd, Galeton; secretary-treasurer, Mrs. Ross H. Jones, Coudersport.

Philadelphia—The regular meeting was held at the home of the county medical society on January 25th. In the absence of the president, Mrs. Walter Jackson Freeman presided. Dr. I. P. Strittmatter, the new president of the county society spoke encouragingly of the work the auxiliary had planned for the year. Dr. Walter S. Cornell gave a talk on "Healthy Children," referring particularly to the public-school children, along the line of his work. He stressed the importance of fresh air and sunshine as well in the prenatal stage as after birth. Among other things he discussed the value of immunization to diphtheria.

In behalf of the Aid Association Committee, Mrs. John M. Fisher, chairman, read a resolution to be presented at the next annual meeting of the Woman's Auxiliary of the Medical Society of the State of Pennsylvania, suggesting that the Aid Association work be made a permanent object of the Woman's Auxiliary. This resolution was unanimously adopted. An entertainment will be held by this committee in the auditorium of the county society home on February 18th.

Westmoreland—The monthly meeting was held on January 10th in the Nurses' Home, Greensburg. Reports on Christmas donations were made by Mrs. Walker and Mrs. Silvis. Arrangements were made for a benefit bridge party on February 7th in the Nurses' Home, the proceeds to be donated to the Medical Benevolence Fund. A committee was appointed to prepare a ballot for the election of officers in March.

ACTIVITIES OF OTHER STATE AUXILIARIES

Colorado—This auxiliary, of which Mrs. C. S. Morrison, Colorado Springs, is president, is very busy making contacts with every member and helping the organized counties formulate health programs. Every county unit is urged to request its respective county newspapers to print an article telling their readers what *Hygeia* is, following up with articles from *Hygeia's* columns. Health talks especially stressing child welfare are being arranged for parent-teacher associations, service clubs, patriotic organizations, etc., and a strenuous effort is being made to rouse the rural parents to the importance of birth registration.

Michigan—At the annual meeting, held at Mackinac Island last June, the auxiliary was organized. To date twenty-one counties have been organized, with a prospect of more.

New Jersey—Progress with organization of auxiliaries to the county medical societies continues, two new groups being formed during November in Passaic and Ocean Counties, bring the total up to sixteen.

Southern—The annual meeting of the Woman's Auxiliary to the Southern Medical Association was held November 14-16, 1927, in Memphis, Tenn. A luncheon was held on Monday for which 450 covers were laid. Tuesday evening a musical was given by the Beethoven Club at the Chisca Hotel. The business meeting was held Wednesday morning in the Peabody Hotel. Following the reports, two inspiring speeches were made by Dr. J. S. Horsley, Richmond, president of the Southern Medical Association, and Dr. William D. Haggard, Nashville, past president of the American Medical Association. Dr. Haggard expressed the hope that before the convention adjourned, Tennessee, too, would have its woman's auxiliary organized. At the close of his speech, Mrs. A. T. McCormack, Louisville, president-elect, suggested that a vote of the Tennessee women present be taken as to whether or not they should organize, and they voted unanimously for an organized auxiliary. It was most dramatic, this birth of a new state unit, in the presence of so many representatives from State, National, and Southern Auxiliaries.

Virginia—The fifth annual meeting was held in Petersburg, October 18-20, during the session of the State Medical Society, with the largest attendance in history. The opening meeting was held at the Petersburg Country Club on Tuesday, followed by a luncheon. The general session was held at the Y. M. C. A. on Wednesday morning. Dr. J. S. Horsley, president of the State Medical Society, delivered the principal address, followed by Dr. Warren J. White, vice-president, whose subject was "Advantages of an Auxiliary to the Medical Profession." State health, the history of Dr. Walter Reed, and "Family Social Work and Child Welfare" were other subjects presented. A gavel made from the wood supporting the Confederate Tunnels was presented to the auxiliary. Thursday an inspiring talk was given by Dr. Southgate Leigh, of Norfolk, on "Telling the True Story of Medicine to the Public."

West Virginia—A joint meeting of the McDowell and Mercer County Medical Societies was held at the West Virginia Hotel, Bluefield, on October 19th. The program for the banquet was presented by the members of the two auxiliaries. Mrs. B. S. Preston, of Charleston, president of the State Auxiliary gave an interesting talk on the organization and what it has accomplished during the past year. Following the banquet, a joint business session of the two auxiliaries was held. Mrs. L. W. Peck, of Coalwood, read a paper on "The Life and Work of Walter Reed," and Miss Helen Fair, a public-health nurse, gave a talk concerning her work.

"STOP-WATCH" EDUCATION

The emphasis on speed instead of accuracy prevalent in modern schools is condemned by Dr. Garry Cleveland Myers, of Western Reserve University, in a recent number of *Mental Hygiene*. Dr. Myers objects particularly to problems on which a time limit is assigned, and to timed mental tests and recitations as a regular part of the school curriculum. He points out that when accuracy is emphasized, greater speed is achieved than when the speed is emphasized, as shown by a study he recently made of the subject. He claims that the teachers and pupils alike become harassed, nervous, and oversensitive as a result of the constant pressure, and recommends that all speed suggestions be removed from the schoolroom; that all stop watches of the schools be assembled and annihilated except those used for experimental purposes; that textbook writers be persuaded to cease putting timed lessons in the pupil's books; that accuracy and calm be substituted for carelessness and haste; that individual-instruction exercises for self-teaching be developed, for in addition to relieving the teacher of much drudgery, they allow the pupil to progress at his own speed and show him how to teach himself; that greater differentiation be allowed, and that a number of different diplomas be offered, each one standing for a very definite accomplishment defined thereon; and that school authorities more often seek advice of clinical psychologists and psychiatrists who are now dealing with the many cases that come from among school children and school teachers.

THE

MEDICAL SOCIETY OF DELAWARE

THE MANAGEMENT OF THE PATIENT WITH PROSTATIC OBSTRUCTION*

B. A. THOMAS, A.M., M.D.
PHILADELPHIA, PA.

The proper and efficient management of the prostatic presupposes a thorough knowledge of the pathology of the various types of obstruction that may exist at the vesical orifice. Primarily, it must be realized that at least 10 per cent of all patients presenting symptoms of prostatic obstruction, familiarly styled *prostatisme sans prostate* by the French, are not of the classical group of simple hypertrophy, so well known and easily recognized, but are incapable of diagnosis by rectal palpation and require cysto-urethroscopy, not only for the true delineation of the exact nature of the condition, but also for the determination of the proper measures to be employed in treatment. I refer here to the so-called bar obstructions at or near the internal vesical sphincter, which may or may not be of prostatic origin. Not infrequently, a small giobular growth or projection, or a narrow or broad, elevated or flat glandular bar will indicate the median lobe of the prostate as the offender. On the other hand, a number of diverse affections, irrespective of the prostatic gland itself, may cause the urinary difficulties; namely, enlargements of the subcervical (Albarran), or the subtrigonal (Home) glands, prostatic cysts and calculi, papillomata and polypoid formations of the vesical orifice or prostatic urethra, hypertrophy of the verumontanum, fibrotic or sclerotic contractures of the internal vesical sphincter due to chronic inflammation, atrophy or senility, and hypertrophy of the vesical trigone. Carcinoma and sarcoma of the prostate, seldom difficult of differential diagnosis, may also produce symptoms of prostatism, but a consideration of malignancy is a chapter unto itself, and lies without the scope of this paper.

The matter of greatest interest to you as general practitioners, and of prime importance relative to the subject of obstruction at the vesical orifice is the early management of the patient. The problems confronting you are: (1) Is malignancy present? (2) Is palliative treatment permissible, and of what should it consist? (3) Are the symptoms of sufficient severity to indicate operative intervention? (4) Should the patient be referred to a specialist?

In many cases, the family physician may be sufficiently experienced to diagnose malignancy by rectal palpation, but if hematuria is present, or if after rectal examination the doctor thinks the prostate is benign, or not enlarged, he should insist upon cysto-urethroscopy to define the source of bleeding or to explain the cause of the urinary symptoms. Occasionally cases of chronic interstitial prostatitis and early carcinoma are observed that will defy the greatest skill of the specialist at differentiation, or the pathology at the vesical orifice will be of such a type as to necessitate cystoscopic biopsy for diagnosis. If the urologist declares against malignancy, and the symptoms are mild and their cause is determined to be some form of incipient obstruction, provoking nocturia not more than twice nightly, and the residual urine is not in excess of two ounces, or if the patient is inoperable because of any organic disqualification, palliative measures may and should be employed. Some urinary antiseptic and full urethral dilatation, periodically, may suffice for many years to give the patient satisfactory relief. If the patient is that rare, unfortunate individual who refuses or is unable to qualify for operation, routine catheterization is the only alternative. Occasionally, patients can be taught to catheterize themselves aseptically. A rubber or French woven, olivary-tipped, or rarely a metal catheter, with prostatic curve, should be selected. The quantity of residual urine governs the frequency of catheterization. For amounts up to four ounces, it should be done once daily, from four to eight ounces, twice, from eight to twelve ounces thrice, and over twelve ounces four times daily. If the urine is purulent, indicative of cystitis, the bladder should be irrigated through the catheter once daily.

In other cases, the drainage can be managed better for the convenience of both patient and doctor, by continuous catheterization, employing

* Read before the 138th Annual Meeting of the Medical Society of Delaware, at Delaware State Hospital, Farnhurst, October 12, 1927.

a single- or double-eye, hollow-nose, soft-rubber catheter of the Wishart or Robinson type. Such a catheter, when necessary, is adaptable to a stylet for introduction. The catheter should be changed every other day, and the bladder irrigated daily, if possible. With proper care, and the maintenance of strict antisepsis, exceptional patients may be handled in this manner for many years. Nevertheless, mindful of the tendency of the various types of prostatic obstruction to be progressive, and as the subjective symptoms, especially frequency, begin to interfere with rest, sleep, and health, and when the residual urine exceeds two or at most four ounces, or complete retention supervenes, threatening kidney drainage by back pressure, and catheterization becomes imminent with its danger of urinary infection, operative intervention becomes strongly indicated. On the other hand, catheter existence may be intolerable or impossible from the beginning, and cystotomy or cystostomy must be done immediately, supplemented by a Pezzer retaining catheter suprapubically.

To the best of my knowledge, there is no form of treatment that will prevent hypertrophy of the prostate, or reduce it after adenomatosis has occurred. Massage, electricity by urethral or rectal electrodes, x-ray therapy, the violet, infrared, and other light modalities are merely placebos, possessing no scientific justification for their employment. The temporary improvement alleged from the use of an urethral electrode is precisely that from the passage of a sound, but no more. It produces symptomatic relief, is purely transient, enjoys a remarkable depletive effect on the patient's pocketbook, but should have no place in honest medicine. Radium, in the future, may succeed in demonstrating its utility in the palliative treatment of prostatic hypertrophy, but to date it has failed utterly in that capacity.

When should the patient be referred to the specialist? The answer to that query is: always; because in no case of prostatic obstruction can the general practitioner rule out the possibility of malignancy. Even the expert urologist, aided by cysto-urethroscopy, may have his own troubles, not infrequently, in establishing this diagnosis early. But the patient should be given the benefit of the doubt. Is the situation not comparable to ophthalmology? Few physicians, today, will essay to treat eye affections; why, then, should they undertake the treatment of the prostatic without an early and immediate expert urologic examination? Maltreatment in one instance may result in the loss of vision; procrastination or maltreatment in the other frequently results in the loss of life. If there is no evidence of malignancy, the symptoms are mild, as stated above, and the patient desires to defer operation temporarily, or is found to be inoperable, he should be referred back to his doctor for any indicated treatment, abiding a subsequent check up.

It is estimated that the danger from palliative treatment or catheter life in the management of the prostatic is five times greater than from a well-conducted operation in a properly qualified patient. The average longevity of the inoperable prostatic, from the onset of obstructive symptoms requiring catheterization, is three to five years; if routine catheterization becomes necessary, the time is reduced fifty per cent. Israel has claimed that it is one hundred per cent with a three-year prognosis. Operative treatment offers a far better prospect than this, not only in years of life expectancy, but also in comfort and happiness during the final years of life. The mortality of prostatectomy today in the hands of urologic surgeons ranges from three to five per cent. The so-called punch operations, cold or hot, and the high-frequency knife per urethram for certain types of obstructions, rendering radical operations in many cases unnecessary, are attended by almost no mortality. Therefore, the dictum, *operate if you dare to and catheterize only if you must,* would seem to be almost justifiable.

The first consideration in the management of the average case of prostatic obstruction is the determination of the operability of the patient. Foremost in this respect stands the renal function, inasmuch as, of the various possible organic disqualifications, the kidneys are most commonly damaged by urinary back pressure, frequently to the point of uremia. The *stability* of the kidney function should be the main concern, and is probably best estimated by taking the *index of elimination* of some dye such as phenolsulphonephthalein or indigocarmin. It is essentially a fractional determination, and may be defined as the measure of the ability of the kidneys to perform a certain task in a given time, against normal. It is computed by taking the ratio of the percentage output of the dye, after intravenous injection, for the first and third thirds of the cycle of major excretion. I believe the *index* gives a far better conception of the integrity of the kidneys than a mere quantitative determination, inasmuch as, when the kidneys are damaged, the excretion of the dye is delayed, and there is a relatively larger output for the third part of the curve of elimination. This deviation from the normal curve, which shows on the average five times the amount in the first third, is more significant of

renal stability than the simple estimation of the quantitative output at any given time. So long as the output of dye for the first twenty-minute period exceeds that for the third twenty-minute period, the patient may be said to be in the positive phase, and therefore qualified for surgical intervention. If the elimination during the third period is greater than during the first, the patient is in the negative phase, and operation is contraindicated. By equal dilution of the specimens and comparison against the light, deductions, positive or negative, may be readily made without resort to the use of a colorimeter. In other words, a patient with a quantitative output of 8 per cent last week, 12 per cent this week, and 16 per cent next week, is a far better operative risk than a patient with an output of 40 per cent last week, 35 per cent this week, and 30 per cent next week. The *index* aims to determine this *stability* of function from a single estimation.

It is advisable to associate the test of elimination, the index, with one of the standard tests of retention, such as the blood urea nitrogen. Absolutely normal values for this range from 12 to 20 mg. per 100 c. c. of blood; safe values from 20 to 30; figures over 30 may contraindicate operation.

Second only to the determination of the kidney function stands the condition of the cardiovascular system, and when seriously involved, this may be a more important consideration than renal deficiency. Cardiac complications are prone to develop as the kidneys become damaged. Obviously, an acute or advanced endocarditis or myocarditis, particularly if attended by lost compensation, would preclude the advisability of operation. Advanced arteriosclerosis, atheroma, or aneurysm will contraindicate surgical attack. In two patients afflicted with venous varicosities, particularly of the lower extremities, embolism, postoperatively, has resulted fatally.

In recent years, more and more attention has been given to the matter of high and low blood pressures in urologic surgery. As a result of investigation into the causes of death in a number of prostatectomies several years ago, I have adopted the following rules relative to surgical intervention: In high-tension cases, when the systolic blood pressure is 180 or more, the diastolic must be under 100; when the diastolic pressure is over 100, the systolic must not be over 175. In low-tension cases, when the systolic pressure is 110 or less, the diastolic must be over 60; when the diastolic is less than 60, the systolic must be over 110. This is not merely pulse pressure in its usual sense, but rather pulse pressure with systolic and diastolic limitations.

There are conditions of the blood other than nitrogen retention that need investigation. Routine Wassermann tests and determination of the coagulation time of the blood may enable the patient to receive appropriate antisyphilitic treatment which will materially fortify his chances, promote his recovery, or at times render operation unnecessary. Rarely, by the detection of a bleeder, life itself may be spared. The blood commonly shows a hyperglycemia in the absence of sugar in the urine. Blood-sugar determination should be routine, and if in excess, the proper diet, with or without insulin, will render surgery safe. The detection of a severe anemia and the administration of hematinics for its improvement will materially decrease the postoperative convalescence of many patients.

Emphysema, hypostatic pneumonia, malignant metastasis, or an old chronic phthisis, will disqualify some patients. Pulmonary, like certain cardiac complications, may be circumvented by recourse to caudal and transsacral anesthesia.

Another vital factor that may disqualify the prostatic is the condition of the central nervous system. Tabes dorsalis and other organic diseases of the nervous system should be easily recognized and should offer little perplexity either in diagnosis or treatment. There is, however, a functional nervous disorder, namely uncontrollable fear of death, which may itself render operation inadvisable. Panic-stricken with fear, death may ensue from nervous shock and exhaustion.

Age in itself is no contraindication to operation. A man is no older than his organs, and if they are found to be fit, mere years are no criterion to prohibit operation. Some men at fifty are older than others at seventy, and some at seventy-five are younger than others at fifty-five. True senility, general organic exhaustion, or physical and mental dissolution, assuredly, will preclude any thought of radical operation.

The operative treatment of the qualified prostatic consists of certain well-recognized procedures, in many cases definitely determinable only by cysto-urethroscopy. Indeed, the concerted endeavor on the part of urologists to determine precisely the exact character of the pathology, with respect to the adoption of the most appropriate, and therefore safest, form of surgical attack, has been one of the main factors responsible for the great reduction in mortality and morbidity in the treatment of prostatic obstruction. These operative interventions comprise suprapubic and perineal prostatectomy and various per-urethral procedures, commonly

spoken of as "punch" operations, of which Young's cold and Caulk's electrocautery are outstanding and most serviceable in many cases. Recently, Collings and Stern have devised the "electrotome" and "resectoscope," employed cystoscopically with the high-frequency current. These modalities may be a great improvement on Bottini's, Freudenberg's, and Chetwood's prostatic electrocautery incisors, if they are not employed in simple hypertrophy or bar cases of the glandular type. For small protrusions or obstructions, as adenomata, cysts, polypoid formations, enlargements of Albarran's and Home's glands, or for fibrotic bars, tumors of the prostatic urethra, enlargements of the verumontanum, etc., the urethral punch may be entirely serviceable. However, in many of these unusual types of prostatic obstruction, especially bars of the glandular type and trigonal hypertrophy, I have elected to perform cystotomy as a more surgical, satisfactory, and safe procedure than per-urethral punching, claiming that a more thorough removal of the offending tissues is possible by a specially designed suprapubic punch, that hemorrhage, if it occurs, is readily controlled, and that in badly infected bladders the danger of urinary fever, because of better drainage is greatly minimized or entirely obviated. In this connection, the value of fulguration for minor lesions or formations must not be overlooked or underestimated.

For fifteen years, I have spoken, written, and reiterated the dictum that more discrimination should be exercised in the selection of the route for prostatectomy. The surgeon should be prepared and willing to perform in the given case either the suprapubic, perineal, or "punch" operation or fulguration, as may be indicated by the pathology presented. If the prostate is generally enlarged, or if there is solely or preponderantly enlargement of the median lobe, or if the obstruction is a glandular bar or hypertrophied trigone, or if there are other intravesical complications such as stone, tumor, or diverticulum, the suprapubic route should be employed. If the gland is small and fibrotic and the involvement is limited to the lateral lobes, the perineal operation should be done. The prostatectomist who is addicted exclusively to the perineal route is just as much in error as the one who is wedded entirely to the suprapubic method. Each can and should shave the already low mortality and morbidity rates by greater discrimination. My experience shows that about 80 per cent of cases have been operated upon suprapubically, and about 20 per cent perineally. The mortality from prostatectomy should not exceed 3 per cent, and in the future may be lower if these unfortunates are given the opportunity of operative treatment earlier, that is, before other organic complications supervene.

The most important factor in the management of the prostatic that has rendered him fit for surgery, and has been responsible during the past thirty years for a reduction in mortality from 50 per cent to less than 5 per cent, is drainage of the bladder in order to decompress the kidneys, temporarily damaged by urinary back pressure, thereby permitting a readjustment of their dysfunction. There still seems to be a considerable difference of opinion and practice as to the best way of accomplishing this drainage, whether by catheter or cystotomy. Assuredly, there are many cases in which primary cystotomy, or so-called "two-stage" prostatectomy, is the method of choice and a life-saving measure. However, in the large majority of patients, it should not be routine, and is unnecessary from the standpoint of economy, if for no other reason. In my practice it has not been done in more than 10 per cent of patients. The decision as to whether periodic or continuous catheterization or cystotomy for drainage is to be employed should not rest upon the inexperienced efforts at catheterization by the average hospital intern or resident physician. Many patients pronounced uncatheterizable, or intolerant to the catheter in the hands of the green hospital intern, will tolerate, most satisfactorily, catheterization by an experienced assistant. The complete and final answer to this problem will be special wards with a trained personnel, interested only in urology. The indications for cystotomy over catheterization are very simple and clear cut. They are: (1) severe cystitis; (2) bladder complications, such as stone, tumor, clots, etc.; (3) epididymitis; (4) stricture and false passages of the urethra; (5) unusually small or sensitive urethræ; (6) obstructions or impassable prostates; (7) febrile cases or patients developing urethral chill and fever.

In cases of prostatic obstruction, either of the irritable type or those associated with retention of urine, the general practitioner should not be content merely to sound or catheterize his patient, but he should have a thorough appreciation of the causative underlying pathology, as well as the future fatal consequences, uremia and pneumonia, incident to cystitis, ascending infection, and kidney and even heart complications. Such patients should be expertly investigated as soon as possible, and if found to be qualified, consideration of prostatectomy should not be delayed indefinitely, until the

kidneys and heart suffer irreparable damage. Let us give these old men a square deal, and not permit them to become surgical derelicts. Remember that if general anesthesia by nitrous oxid or ether is contraindicated, the operation may be safely and painlessly performed under caudal or transsacral anesthesia and suprapubic regional field block. Thus will the prostatic, with the minimum risk, not only have his life materially prolonged, but his final years will be spent in comfort and happiness.

Graduate School of Medicine, University of Pennsylvania

Medical News

Deaths

Mrs. Anna W. Stout, wife of Dr. George C. Stout, of Philadelphia; January 28.

Samuel B. Arment, M.D., of Bloomsburg; Jefferson Medical College, 1877; aged 75; recently.

George W. Miller, M.D., of Greensburg; Jefferson Medical College, 1884; aged 69; December 22.

Frederick W. Wood, son of Dr. and Mrs. William C. Wood, of Philadelphia; aged 10; January 28.

Edwin M. Bingaman, M.D., of Bernharts; Jefferson Medical College, 1895; aged 56; December 14, of pneumonia.

Thomas V. Miller, M.D., of Lebanon; University of Pennsylvania School of Medicine, 1868; aged 84; January 6.

James Q. Lemmon, M.D., of Latrobe; University of Pennsylvania School of Medicine, 1882; aged 75; January 20, of apoplexy.

Eugene L. Vansant, M.D., of Philadelphia; Jefferson Medical College, 1884; specialized in throat, nose, and ear diseases; member of the American Laryngological Society; aged 68; February 15.

Warren H. Johnston, M.D., of Philadelphia; Jefferson Medical College, 1913; aged 36; February 7, at sea. Dr. Johnston was making his first trip as ship's surgeon on the liner *American Shipper*.

Charles J. Watson, M.D., of Philadelphia; Jefferson Medical College, 1916; former assistant police surgeon; aged 42; February 9. Dr. Watson fell asleep while smoking a cigar in bed and burned to death.

Prof. Johannes Fibiger, winner of the Nobel Prize for medicine in 1926; January 31. Prof. Fibiger, who was on the faculty of the University of Copenhagen (Denmark), was awarded the prize for his work in cancer research.

Frank M. Rapoport, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1920; district physician for the Bureau of Health; attached to the Medical Corps of the Navy during the World War; aged 41; February 5.

Henry C. Lacy, M.D., of New Brighton; Jefferson Medical College, 1908; formerly on the staffs of the Beaver Valley General Hospital, New Brighton, and the Providence Hospital, Beaver Falls; aged 52; January 1, of bronchial asthma.

William E. Glosser, M.D., of Williamsport; University of Pennsylvania School of Medicine, 1893; former chief of the medical staff of the Williamsport Hospital and later an honorary member of the general staff; president of the Lycoming County Medical Society in 1908; aged 59; February 13, after an illness of several years.

John N. Rhoads, M.D., of Philadelphia; Jefferson Medical College, 1885; inventor of more than thirty-five medical instruments and appliances; writer of fiction; formerly connected with the Lying-in-Hospital, St. Agnes Hospital, and the gynecological staff at Jefferson Hospital; only American ever invited to address the Ophthalmological Society in London, visiting there in 1925; member of the Academy of the Fine Arts and of the National Geographic Society; owned an extensive and valuable collection of American Indian relics which, with his personal library, are bequeathed to the University of Delaware; aged 68; January 28, of cerebral hemorrhage.

Truman W. Brophy, M.D., renowned oral surgeon of Chicago, Ill., died in Los Angeles, Calif., February 4, at the age of 79 years. He was active in his profession almost to the last. Dr. Brophy was graduated from the Pennsylvania College of Dental Surgery in 1872, and in 1880 took his medical degree from Rush Medical College. In 1881 he initiated the organization of the Chicago Dental Infirmary, which later became the Chicago College of Dental Surgery. He was the first dean of this institution and held this position for nearly forty years. In 1886, he made his first operation for immediate closure of congenital cleft palate in a young infant.

Births

To Dr. and Mrs. Joseph E. Sands, of Bryn Mawr, a son, recently.

To Dr. and Mrs. Owen J. Toland, of Cynwyd, a son, Owen J. Toland, Jr.

To Dr. and Mrs. Samuel J. Brinton, of Ardmore, a daughter, Ann Virden Brinton, January 30.

Engagement

Dr. J. B. Johnston, of Ligonier, and Miss Wiseman, of Pittsburgh.

Marriages

Dr. Florence M. Gottshall, of Philadelphia, to Dr. Abraham Barr Snively, of Waynesboro, January 7.

Miss Mollie Sacks, of Philadelphia, to Mr. Morton R. Hirsch, son of Dr. and Mrs. Mayer Rosen, also of that city, February 5.

Miss Caroline M. Ashton, daughter of Dr. and Mrs. Thomas G. Ashton, to Mr. Morris Cheston, son of Dr. and Mrs. Radcliffe Cheston, all of Philadelphia, February 18.

Miss Vivienne Bartlett, daughter of Dr. and Mrs. Clarence Bartlett, of Merion, to Edward M. K. Klapp, son of Dr. and Mrs. Wilbur P. Klapp, of Villanova, January 29. They eloped to Belair, Md.

Miscellaneous

Dr. D. W. Shelly, of Ambler, is recovering from a recent illness.

Dr. Thomas W. Raper has been seriously ill at his home in Williamsport.

Dr. M. Edith MacBride, of Sharon, has recovered from an illness of almost two months' duration.

Dr. J. L. Roth, of Conshohocken, who has been suffering with sacro-iliac arthritis, is reported to be improving.

Dr. J. M. Markley, of Schwenkville, was injured recently in a collision with another car. Both cars were damaged beyond repair.

Dr. W. F. Kunkle, of Williamsport, was recently elected a member of the Board of Directors of the Pennsylvania Tuberculosis Society.

Dr. Joseph M. Corson, of Hughesville, who has been an invalid for the past eighteen months, is now much improved in health.

Mrs. P. Brooke Bland and daughter, Miss Helen Bland, of Philadelphia, submitted prize-winning compositions at a literary contest held recently by members of the Modern Club in the Ritz-Carlton.

Dr. E. L. Piper, formerly of Export, and now located in Pittsburgh, was recently appointed to the dispensary staff of the new Children's Hospital, and is also an instructor in pediatrics in the University of Pittsburgh School of Medicine.

In line with the development of a progressive program against the cancer menace, the State Health Department announces a cancer clinic which will be held every Thursday from 3 to 4 o'clock, at 429 Walnut St., Reading, Pa. Other clinics are located at Johnstown and Allentown.

Under the auspices of the Philadelphia Roentgen-Ray Society, a two-day clinical meeting was held at Philadelphia hospitals the latter part of January. The physicians in attendance were members and guests of the New England Roentgen-Ray Society and the New York Roentgen Society.

Sitting on a radiator while holding the button of a faulty x-ray machine in his hand, Dr. Alfred D. Bolton, owner of Euclid Hospital, Cleveland, Ohio, was electrocuted on February 6. He had just finished making an x-ray picture and while sitting on the radiator a circuit was established and he was thrown to the floor.

Dr. Julius Bauer, Professor of Medicine in the University of Vienna, recently came to this country under the auspices of the American College of Physicians. He delivered the convocation oration at their meeting in New Orleans, which was held March 5 to 9, and will deliver several other lectures during his visit in the United States.

At the January meeting of the Chester County Medical Society, Dr. U. Grant Gifford, president, read the same retiring address which he had read thirty-five years ago, entitled "Ethics of the Medical Profession, Especially of its Relation to the Public," and which was published in the *Journal of the American Medical Association* in 1896.

At the 107th Founder's Day exercises of the Philadelphia College of Pharmacy and Science, held February 23, the new building was dedicated, the ceremonies being presided over by Dr. Wilmer Krusen, president of the College. The dedicatory address was delivered by the Hon. Hampton L. Carson, whose father was professor of materia medica and pharmacy of that institution. Brief messages of felicitation were given by delegates of scientific societies and colleges.

The Pittsburgh Ophthalmological Society gave a testimonial dinner at the University Club on February 11 in honor of Dr. Edward B. Heckel in recognition of his service to organized medicine, and in celebration of his fifteenth consecutive year as president of the Society. Guests of honor included Drs. G. E. de Schweinitz, Alfred Stengel, and Arthur C. Morgan, of Philadelphia; Dr. Wm. S. Thayer, of Baltimore; and Drs. Thomas G. Simonton, C. H. Henninger, Samuel R. Haythorn, and L. H. Landon, of Pittsburgh. Dr. G. E. Curry, vice-president, presided at the dinner.

The American Child Health Association, 370 Seventh Avenue, New York City, is issuing a series of pamphlets for May Day, May 1st, which tell the story of a twenty-year program in child health. The Association answers the question, What is May Day? as follows: May Day as Child-Health Day holds within it the power of a great vision. Its goal is to focus the interest of the nation upon perfected childhood, with the hope of a start in life that will be free, sound, and richly potential for every child. This day has been given to the country to become, like the Maypole, a central rallying point for all the diverse activities concerned with the welfare of children which, combined, will help to clear the pathway toward the goal of May Day.

A Conference on Rheumatic Diseases is to be held at Bath, England, on May 10 and 11, 1928. Sir George Newman, Chief Medical Officer of the British Ministry of Health, will act as president of the Conference. There will be three sessions: (1) Social Aspects, presided over by Lord Dawson of Penn, physician to H. M. King George; (2) Causation, presided over by Sir Humphry Rolleston (Regius Professor of Physics, University of Cambridge); and (3) Treatment, presided over by Sir E. Farquhar Buzzard (Regius Professor of Medicine, University of Oxford). The secretary is Dr. Vincent Coates, 10, Circus, Bath, England.

The thirteenth annual convention of the Catholic Hospital Association of the United States and Canada and the second annual Hospital Clinical Congress of North America will be held in the Cincinnati Music Hall, Cincinnati, Ohio, June 18 to 22, inclusive, 1928. The fourth annual convention of the International Guild of Nurses will be held at the same time, in the same building, at night meetings. There will be general scientific meetings, special clinics or demonstrations of hospital departments, and three hundred special commercial and educational exhibits. Outstanding authorities in medicine, surgery, pathology, nursing, dietetics, hospital administration, architecture and engineering will lecture and demonstrate in specially planned clinics representing the various departments of the modern hospital. Further information may be obtained from John R. Hughes, M.D., Dean of the College of Hospital Administration, Marquette University, Milwaukee, Wisconsin.

The board of trustees of St. Margaret Memorial Hospital, Pittsburgh, announces a gift of funds to establish a laboratory for clinical and biologic research to be known as the John C. Oliver Memorial Research Foundation. The donor is Mrs. John C. Oliver of Sewickley. The gift will provide generously for the equipment and maintenance of such a department in the hospital. A full-time biochemist will be in charge under the direction of a committee from the staff comprising Drs. Paul Titus, Ernest W. Willetts, and Charles J. Bowen. The new department will not take part in routine laboratory work of the hospital, but will be available to the entire medical staff for research on any general medical problem. St. Margaret Memorial Hospital was founded by John Hopson Shoenberger and is conducted under the direction of the Episcopal Diocese of Pittsburgh.

The annual report of the Commonwealth Fund shows that expenditures of $1,100,000 were made in 1927 to improve the physical and mental health of children. The fund was established in 1918 with a gift of $10,000,000 from the late Mrs. Stephen V. Harkness. Other gifts for hospitals, educational and welfare work brought the total of the year's expenditures to $1,953,557. The capital endowment of the fund now totals $38,000,000. The year brought to a close the five-year demonstration of health work at Fargo, N. D., and the beginning of a period in which that city will continue at its own expense the work begun by the fund. In Austria, the fund aided in the post-war child-welfare work, and in a dozen American cities it established child-guidance clinics in the public schools and clinics for the study of child behavior problems. A total of $175,000 was appropriated for maintenance of 23 traveling fellowships for British graduate students in American universities. Grants also were made to research organizations studying health problems in this country and abroad. Rural hospitals were established at Farmington, Maine, Beloit, Kansas, and Wauseon, Ohio, in an effort to improve local medical practice and to provide an incentive for good physicians to remain in and young physicians to come to the country.

The fourth award of the Leslie Dana Medal, presented annually through the Missouri Association for

the Blind to the person selected from the nominations received by the National Society for the Prevention of Blindness, will take place during the 1928 meeting of the American Academy of Ophthalmology and Otolaryngology, in St. Louis, Missouri. Nominations will be received by the National Society for the Prevention of Blindness, 370 Seventh Ave., New York City, together with detailed information prompting the nomination, until the 15th day of May, 1928. The medical profession and ophthalmological societies are invited to submit names of persons deemed worthy of this honor to the National Society, under the conditions set forth in the deed of gift, as follows:

(a) Long meritorious service for the conservation of vision in the prevention and cure of diseases dangerous to eyesight.

(b) Research and instructions in ophthalmology and allied subjects.

(c) Social service for the control of eye diseases.

(d) Special discoveries in the domain of general science or medicine of exceptional importance in conservation of vision.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

FALL ANNOUNCEMENT OF NEW MACMILLAN BOOKS, 1927 and MACMILLAN BOOKS FOR BOYS AND GIRLS. The Macmillan Company, 60 Fifth Avenue, New York, N. Y.

These two catalogues contain descriptions and reviews of the latest Macmillan publications, and will be of value to all who are interested in current literature. The catalogue of children's books is particularly attractive, with its many illustrations, some of them beautifully colored. They may be obtained by writing to the above address.

CLINICAL DIAGNOSIS BY LABORATORY METHODS. A WORKING MANUAL OF CLINICAL PATHOLOGY. By James Campbell Todd, Ph.B., M.D., Professor of Clinical Pathology, University of Colorado, School of Medicine, and Arthur Hawley Sanford, A.M., M.D., Professor of Clinical Pathology, University of Minnesota (the Mayo Foundation); head of Section on Clinical Laboratories, Mayo Clinic. Sixth edition. Cloth, $6, pp. 748, revised and reset, with 346 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Co., 1927.

This work, extending in the past twenty years through five revisions, hardly needs introduction to the practitioner of this epoch, much less to the laboratory specialist. The work has kept abreast always with the latest and most thoroughly acceptable methods in clinical laboratory diagnosis. In this sixth edition, Arthur H. Sanford, head of the clinical laboratories of the Mayo Foundation, has become a co-author.

Due to better resetting, the text has actually shrunken fourteen pages in spite of the addition of new subject material and twenty-one extra illustrations.

A splendid article on the use of the microscope is followed by chapters on the sputum, the urine, blood, gastric and duodenal contents, the feces, animal parasites, pus and puncture fluids, miscellaneous examinations, serodiagnostic methods, bacteriologic methods, vaccines, and biologic skin tests. A thoroughly practical appendix on technical reagents, and an index-outline of laboratory findings on important diseases concludes the work.

The authors have, in general, most thoroughly accomplished the revision, neither adding impractical controversial topics, nor subtracting older standard routines. When a modification of a test has proved superior to the original, the original has been omitted entirely—a feature in keeping with the modern idea of good textbook making.

Happily the nomenclature of the animal parasites has been brought up to date to parallel the larger treatises on parasitology. The latest tests of dependence in blood chemistry are all to be found in the proper section, with clear outlines for preparing reagents and performing the tests. The biologic skin tests with their interpretations are concisely outlined.

The book in its sixth edition will undoubtedly again find its place on the book shelves of all laboratory workers, and should also prove a most useful accessory in the hands of the practitioner wishing to keep abreast with scientific progress in clinical laboratory work on which he has come to lean so heavily in modern medicine.

AFFECTIONS OF THE STOMACH. By Burrill B. Crohn, M.S., Associate Attending Physician, Mt. Sinai Hospital, New York City. Cloth, 902 pages, with 361 illustrations. Philadelphia: W. B. Saunders Co., 1927.

Dr. Crohn almost apologizes for the birth of his "modest work," yet a perusal shows it to be practically a one-volume encyclopedia, its fifty-two chapters covering the field most completely. It represents the experience of the several cognate clinics at one of New York's busiest hospitals. It contains an excellent bibliography at the end of each chapter, and the references are brought up practically to the day of the publication. However, some of the very latest work, such as Carnett's on pain in the abdominal wall, could not be included.

The work abounds with data and statements that will be new to most readers, except the gastro-enterologists; e.g., the statements that perforation is much commoner in duodenal than in gastric ulcer, and that the mortality is higher in those who have had morphin than in those who have not had it. The judgments pronounced are sound, and but few exceptions will be taken. The chapter on chronic appendicitis is a classic, while the chapters on gastroduodenal ulcer are among the best we have seen on that subject. The chapters on the surgery of ulcer have been written by Dr. A. A. Berg, who believes the best all-round operation is subtotal gastrectomy, a viewpoint that will find much support among European clinicians, and much opposition among American surgeons.

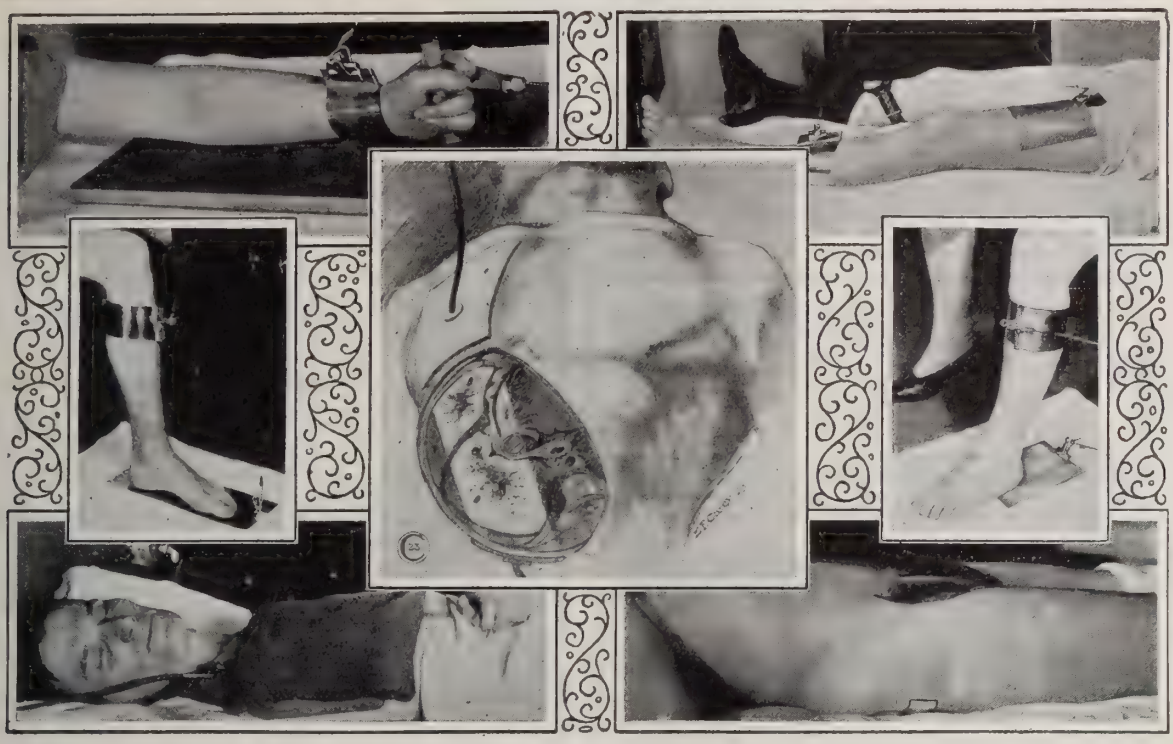
The book exhibits the usual standards of the publishers in its physical make-up, and the illustrations really illustrate. Very few errors have escaped the proofreaders, but we can all agree (p. 436) that "a calculous cholecystitis is not a rare disease," but acalculous cholecystitis is not quite so common. The index should be materially enlarged with cross-references. While leather-bottle stomach is indexed, no mention is made of linitis plastica, and this book is too good not to be instantly and completely available.

The work as a whole makes an appeal to the general practitioner and to the surgeon that is not found in most of the books on this subject, and it merits a wide circulation among all those who may have occasion to review quickly, and more or less completely, some phase of the subject.

COUNCIL-PASSED

The notable success of many pharmaceutical products which have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in *New and Nonofficial Remedies* recommends not only the plan itself, but the wisdom of the medical profession in selecting these reliable "Council-passed" remedies for daily use. Among the medicinal chemicals now being widely used are such "Council-passed" products as ephedrine hydrochloride, neocinchophen, butyn,

(Concluded on page xviii.)



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(Concluded from page 438.)

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HOW THE CANCER PROBLEM IS HANDLED IN MASSACHUSETTS*

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WORCESTER, MASS.

The State of Massachusetts is preëminent in many respects, and we who dwell therein are not so shrinkingly modest as to allow New York and our other sister states to ignore this fact. We hold one all-American title, however, which we would concede to the first rival who challenges us. We have the highest death rate from cancer of any state in the Union. I surmise that it was current knowledge of this deplorable fact which in 1926 inspired our legislators to do something about it. A law was passed empowering the Department of Health to alter the situation forthwith, and an appropriation was embodied in the act to enable an immediate start. An excellent point in this law lies in the fact that the responsibility for action was put up to the medical fraternity directly and not assigned to a committee of ministers, school teachers, and undertakers as is the occasional wont of legislatures.

The plan proposed carried three main divisions. There was to be a hospital established for the care and treatment of afflicted patients, there were to be cancer clinics inaugurated at strategic points throughout the State, and there was to be provision for the further study of cancer.

Like the State of New York, which has a Department of Public Health of surpassing excellence, Massachusetts has a thoroughly efficient organization for the care of the physical well-being of its citizens. The director of the Department himself took an immediate leading part in carrying out the State's plan of action, and delegated to the officers of the Division of Epidemiology its development in detail. To aid him in the work he established an advisory committee of volunteers, most of them physicians. In addition to this assistance he, of course, pressed into service the chairman of the Massachusetts branch of the American Society for the Control of Cancer, the various local cancer committees already established in different parts of the State, and the Cancer Committee of the Massachusetts Medical Society, thus mobilizing all the forces at that time available in the State.

First efforts were directed toward securing an adequate hospital site. This was found in the form of an already existing State institution not at the time in use. Remodeling of the buildings at Pondville was begun promptly and was well under way before the end of last year. The usual construction delays postponed its opening until June of this year, when it was dedicated with appropriate dignity and opened at once for patients. Its equipment is sufficient to accommodate ninety patients, and without going into needless detail, suffice it to say that the patients are assured of the best possible care and treatment at the hands of a thoroughly trained medical staff and adequate nursing department, with physical equipment providing for the carrying out of all recognized methods of surgical, medical, and physiotherapeutic treatment.

It is, of course, recognized that segregation of patients at a point distant from their homes has definite drawbacks. With this thought in view, the Department of Health has made a survey of the hospital situation throughout the State with a view to determining the beds available for cancer patients near their homes in institutions equipped to give adequate treatment. Hospitals are not keen to surrender beds to protracted and hopeless cases. This survey shows, however, that with the facilities of the Pondville hospital added, there will not be a serious shortage of hospital opportunities for the cases which require such treatment. It is not generally felt, I believe, that other hospitals similar to that at Pondville, but in different sections of the State, will be required in the near future at least.

The second step in the State's plan was the development of cancer clinics at strategic points. As conceived by the Department of Health and the various advisory committees, a cancer clinic should differ in some respects from the ordinary outpatient clinic. In the first place, the object

* Read before the New York City Committee of the American Society for the Control of Cancer at the Academy of Medicine, New York City, November 22, 1927.

of the legislative act was a study of the incidence of cancer in the hope that some preventive measures might result from more accurate knowledge of the actual amount of cancer in the community. For this purpose, more cases must be attracted than the casual poor who make up the personnel of an ordinary outpatient clinic. It was, therefore, decided that the enterprise should take the form primarily of a diagnostic clinic. Any patient who applies or who is referred may be admitted. If able, patients are expected to pay for treatment, which is often expensive.

In establishing a clinic there must, of course, be a chief of staff, preferably a general surgeon, but of equal importance there should be consultants immediately available in all the specialties. Furthermore, and of the utmost importance, there must be a thoroughly equipped pathologist and adequate laboratory facilities. A minimum standard is set for the material equipment necessary for treatment by surgery, radium, and x-ray work. In order to render the statistics uniform and valuable, an efficient system of records must be maintained by a special clerk who may at the same time be a nurse or social-service worker, or both. To encourage physicians to refer cases for diagnosis, it was announced that each case would be studied and returned to the referring physician with diagnosis and recommendation for treatment.

The social-service work is recognized as a most important activity of the clinic. There are two special reasons for this. In the first place, follow-up work is of the gravest importance, since the only hope in cancer treatment is in its early application and the faithfulness with which it is carried out. Patients not reporting as directed must be pursued with all haste and urged to continue treatment. The other outstanding reason for the follow-up work is to prevent duplication of treatment. It has been found occasionally that a patient under radium treatment at one hospital has had an additional dose administered at another clinic, the latter being ignorant of the previous radiation. It is easy to see the potential danger of having the patients uncontrolled.

Aside from its usefulness as a diagnostic and treatment center, the greatest possible stress is laid on the educational value of the cancer clinic. Here again the social-service worker bulks large in the picture. Her's is the duty, during her house visits, to point out to relatives, neighbors, and friends the danger of allowing suspicious symptoms to go undiagnosed, to praise that patient who reports early, and to demonstrate the tragedies occasioned by delay.

The establishment of a cancer clinic is news, and the daily papers willingly throw open their columns to generous notices of the plan and are ready to receive current reports of the progress of such a venture. A review of the first hundred cases treated at the Massachusetts clinics indicates that an overwhelming majority of the cases seen have come by reason of the newspaper publicity so generously given.

Clubs, societies, and churches become curious and ask for speakers to explain the object of the clinics, offering an excellent opportunity for the dissemination of general information about cancer. In the Worcester clinic the Junior League has taken a very profound interest, and this year staged a charity ball for the purpose of raising funds to pay the salary of a social worker. In this way an influential group of younger women have become sponsors of the educational phase of the clinic.

Working alongside the professional personnel of each clinic there is a lay committee composed of intelligent citizens other than doctors whose duty it is to advertise the clinic, further publicity, and by any means they may devise develop an educational propaganda in the community. This committee meets regularly with a representative of the State Health Department and lays plans for getting the information issued by the National Society and the Health Department itself insistently before the public. For example, a letter was issued by this committee to all the ministers in Worcester calling their attention to the clinic and urging them to aid in such ways as may lie within their power in spreading the facts about cancer among their parishioners.

The medical profession is itself sadly in need of instruction in the early recognition of suspicious signs of cancer. It is the general practitioner who first sees the great majority of cases, and all our statistics still show lamentable delay in diagnosis and treatment. If properly developed, the cancer clinic may, and I believe will, become a teaching center for physicians in each community where it is established. This development will perhaps be slow, but it furnishes an opportunity which must not be missed to spread the only sure gospel in the treatment of cancer, that it is curable if discovered and eradicated before the stage of metastasis is reached.

Through these and other channels we feel that information is gradually sifting into the minds of the people. We believe that we are getting cancer talked about and that this will inevitably result in our seeing the cases earlier. Many of you remember the similar experience through which the profession passed in educating the public about tuberculosis. Thirty years

ago it was the custom to conceal the fact that tuberculosis was present, from the patient himself, from the relatives, and from the community at large. Publicity and knowledge disseminated in the manner of handling that disease has cut its death rate in two. Unlike that campaign, we are not yet equipped with a method of cure in cancer which holds out more than most uncertain hope. The fight will be a harder one for that reason, since hopelessness on the part of the patient is a most difficult factor to combat. Secrecy is still enjoined by misguided relatives; even treatment by radium is sometimes denied a patient because its known use in malignancy may lead him to suspect the character of his disease. Such blindness must pass, and getting the thing talked about, bringing it out into the open, may help to dispel some of the present fear and lessen the too frequent disasters resulting from prolonged concealment of symptoms. Indeed it is already so doing, for in addition to the many new cases we are seeing in the clinic, a good proportion in the early stages, we are constantly getting testimony from physicians that they, too, are seeing more early cases in their offices and are more frequently called upon to do physical examinations on healthy patients who want to be assured that there is no evidence of a precancerous condition present.

There are two or three questions that probably enter your minds to which I shall allude briefly. In the first place, is there danger of arousing a public cancer phobia? We have seen no indication of this. It is true that many patients come for examination who show no signs of cancer, but this seems to me a commendable form of insurance, and if they come with a fixed idea of undue dread in their hearts, we have been able to dispel the same in certainly the vast majority of the cases. Indeed, if there be cancer phobia in the community, is not this accurate diagnostic clinic, in which the people have faith, the very best way to combat the evil?

What is the exact technic of the clinic? This question I have avoided, as each community in Massachusetts that has established such an undertaking has solved it in a little different manner. In general, it has appeared best to attach the clinic to a regularly established hospital or to several hospitals in a city. The establishment *de novo* of a cancer center would be out of the question save where a very large endowment was given for this explicit purpose. In most communities this would be wasteful when hospital facilities are already available.

What is the expense of such a clinic? If a hospital is willing to include it in the regular outpatient service, which is a perfectly rational procedure, the expense of housing, heat, light, and x-ray can reasonably be shouldered by the hospital itself. Special record blanks are supplied by the State Department of Health from part of their appropriation. Radium and radium emanations constitute our greatest physical problem. At present, most of the radium used is privately owned and generously contributed by the physicians interested in the clinic. This is not fair, and the State is considering this problem at present. The Department already supplies emanations at little or no cost when required. The only expense of moment is that for the salary of a social worker. Each clinic has a small endowment from the State funds. Perhaps some of the clinics may use part of this for a worker's salary. At our own clinic, as stated above, we enticed the Junior League to subsidize us for a year and they will probably continue. In any event, this expense is not very considerable, and the problem of finding a source of supply should be easily surmounted.

William James has said that "The lives of the Saints are tested by their fruits, not their roots." Thus far we are in the experimental stage, planting our roots and fertilizing them with brains, we hope. The fruits must await appraisal at the distant harvest. The director of the Department of Health has tabulated roughly the first hundred cases at three clinics, those of Worcester, Lowell, and Springfield. This tabulation follows:

Report of First 100 Cases in Those State-Aided Cancer Clinics Which Have Had That Many Admissions

Reasons for coming to clinic	*Worcester*	*Lowell*	*Springfield*
Physician	39	9	4
Newspapers	38	74	80
Friends	8	7	7
Past experience	3	0	1
Social worker	2	1	1
Nurses	7	1	3
Others	0	2	1
Unknown	3	6	3
Diagnosis			
Operable cancer	28	9	14
Inoperable cancer	5	4	6
Benign tumor	13	21	15
Other conditions	54	65	63
Unknown	0	1	2

Median duration of symptoms (cancer cases only)

	Worcester Months	*Lowell Months*	*Springfield Months*
Before first seeing doctor	6.0	5.5	10.0
Before coming to clinic	9.0	10.5	20.3
	15.0	16.0	30.3

	Worcester	*Lowell*	*Springfield*
Average number of doctors consulted by cancer patients for symptoms which brought them to clinic	1.8	1.3	1.8
Organ affected			
Buccal cavity	4	4	7
Stomach group	1	1	0
Intestines group	1	0	1
Female genitals	2	1	0
Male genitals	1	0	0
Skin	10	4	8
Breast	9	2	4
Others	2	1	0
Unknown	3	0	0

Other clinics at Newton, Lynn, and Norfolk.

Finally, I believe this experiment in the State of Massachusetts has made a start in the more accurate study of the incidence of cancer which is bound to prove of definite value. It is still imperfect in many ways. For example, it has been roughly estimated that only half of the patients having cancer in a community enter hospitals. How shall we reach the cases treated in private offices? Shall cancer be reportable? Personally, my answer inclines to be affirmative. The most obvious value in the enterprise would appear to be in its educational possibilities. And in this connection, the education of the medical profession itself is by no means the most insignificant portion of the task.

Symposium On Urology in Childhood *

BORDERLINE PROBLEMS IN PEDIATRICS AND UROLOGY

HERMAN L. KRETSCHMER, M.D.
CHICAGO, ILL.

It has not been so many years since the field of urology in pediatrics was first developed. A few of the early contributions came from German urologists, but the real impetus that was given the subject emanated from the United States, not to mention numerous contributions of a high order, a list of which may be found in a recent publication.†

Despite the many contributions, however, the close connection between pediatrics and urology is not appreciated, and the result thereof is evidenced by the fact that even today a large number of physicians are not familiar with the fact that infants and children can be cystoscoped with the ease with which adults undergo this sort of examination, due in large part to development in the perfection of small cystoscopes, both for plain cystoscopic examination and for ureteral catheterization. Nor do they fully realize the great value of such an examination in arriving at a correct diagnosis.

This paper is based on an experience gained from one hundred cases. Some of these presented borderline problems, and because of this fact, a differential diagnosis was necessary, involving an accurate study of certain symptoms and signs before surgical intervention was undertaken.

Appendicitis

In this series there were three cases of appendicitis. In the adult, as is well known, it occurs not infrequently that the urologist is called upon to differentiate between lesions of the appendix and lesions of the right ureter and kidney. In infancy and childhood, however, this differentiation is a rather infrequent problem, hence it may not be amiss to discuss briefly these three cases.

In the first case, a boy fourteen years of age had a history of pain in the abdomen, nausea and vomiting, fullness in the bladder, difficult urination, and fever. These attacks of abdominal pain occurred about three times a year. During the last attack the boy complained of pain in the glans penis. Examination of the urine showed a few leukocytes. X-rays were negative for stone. Tenderness was present two inches below McBurney's point, and a diagnosis of appendicitis was made. From the history and findings, a lesion of the urinary tract was not excluded, and it was decided, before operating, to make a cystoscopic examination. This was done. In view of the fact that the bladder was negative, the diagnosis of relapsing appendicitis was tentatively made. At operation, the tip of the appendix was found adherent to the bladder.

In the second case, a male infant thirty-four days old had a tumor on the right side of the abdomen, some vomiting, and frequency and urgency of urination. The white-cell count was 19,800. Physical examination showed a large mass filling the right side of the abdomen. Cystoscopic examination was requested by the attending physician because of the presence of the growth, an enlarged kidney being thought possible. Bladder symptoms were of enough severity to justify cystoscopic examination. This was done and was negative. Ureteral orifices were normal. Indigocarmin appeared promptly from both sides. Therefore, a diagnosis of appendiceal abscess with beginning peritonitis was made. This was verified at operation.

The third case was a girl, ten years of age, in whom the diagnosis of appendicitis was made. Because of the presence of a few pus cells in the urine, it was deemed advisable and desirable to cystoscope her so as to exclude coexisting disease in the urinary tract. Examination of the urinary tract was negative, and at operation an acutely inflamed appendix was removed.

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* Read before the joint meeting of the Sections on Pediatrics and Urology of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 5, 1927.

†Kretschmer, H. L.—"Urologic Problems in Infancy and Childhood." *Am. J. Dis. Child.*, 952: 977 (June, 1927).

Group in Which no Diagnosis Was Made

In a previous report of my experiences there were twelve cases in which no diagnosis was made. Since the publication of that paper, some of these patients have come back for reëxamination, and this group, i.e., the negative group, has been reduced to nine cases. For purposes of discussion these nine cases may be subdivided into three groups.

Group 1.—The cases in which the examination was complete and in which no evidence of organic disease was found at the time the patient was under observation. There were three cases in this group. In all of them a clinical diagnosis of relapsing pyelitis has been made. The patients had had many attacks of pyelitis; they had been in the hands of competent physicians, and were sent in for urologic study to determine the cause of their relapsing attacks of pyelitis. The three patients were subjected to a careful urologic survey, and everything, i.e., cystoscopy, ureteral catheterization, x-ray, pyelograms, study of the urine, etc., was negative. Up to the present time these patients have remained well. In two of the three cases each attack of pyelitis was preceded by head infection, in one instance by attacks of tonsillitis, and in the other by sinus infection. These foci of infection have been removed, and the patients are well.

Group 2.—Cases in which only bladder symptoms were present, and cystoscopic examinations were done to rule out the presence of coexisting disease of the bladder. In all three instances the cystoscopic examination was negative, and the patients have remained free from urinary-tract symptoms ever since. The youngest of these patients was 11 months; the oldest, 3 years.

Group 3.—Cases in which the urologic examination was incomplete. Three cases came to the urologic service for consultation, and for one reason or another the urologic examination was not completed, chiefly because of objection on the part of the parents, who took the children home before our work was finished.

It will be seen from the foregoing that the percentage of cases in which no diagnosis can be reached, provided one has the coöperation of the parents so that a complete survey of the patients can be made, is exceedingly small. If we exclude group 3, in which we were denied the privilege of completing examination, we have only six cases in one hundred in which no diagnosis was made. Therefore, in this group of nine cases there are three in which study could not be completed and no diagnosis was made; three in which the pyelitis had evidently run its course and which were free from infection when admitted to the hospital; and three in which a cystoscopic examination had been requested only in order to rule out pathology in the bladder.

Oxaluria

Oxaluria is rather commonly met with in adults; in children, on the other hand, this is an exceedingly rare and unusual condition. The patient who was brought in with oxaluria was two years of age, the symptoms beginning shortly after birth and evidencing themselves in difficulty on urination, burning urination, and exceedingly painful urination. Examination of the urine after an attack showed the presence of many calcium-oxalate crystals and red blood cells. The urologic examination was negative, and a diagnosis of oxaluria was made by exclusion.

Lesions of the Prostate

Lesions of the prostate are rare in infancy and childhood. They certainly are most unusual in the first decade of life. In two instances, boys of 13 were sent in with urinary-tract infections and urinary-tract symptoms. In one case the patient had an acute prostatitis which followed Vincent's angina, but when the boy presented himself the throat condition had cleared up. Pus was found in his prostate, but no organisms. The second boy was referred for treatment because of relapsing attacks of pyelitis. In trying to determine the cause of the relapsing pyelitis, an examination of his prostate was made, and it was found to be the seat of a very acute infection. The strippings showed much pus, and cultures revealed the presence of colon bacilli.

Objections to Cystoscopy in Children

It may not be amiss to dwell upon some of the more frequently mentioned objections whenever the subject of cystoscopy and ureteral catheterization in infancy and childhood is mentioned, the apparent magnitude of which no doubt will lessen in the course of time when fuller knowledge is acquired. The more frequently these examinations are carried out, the more familiar the public becomes with this form of examination, and the more skillful and dexterous the operator becomes, the sooner the idea that this is a major procedure will cease. Often the parents or physician object to the use of an anesthetic necessary in certain cases. It is surprising how often one is able to cystoscope, catheterize ureters, and make pyelograms under local anesthesia. However, should it become necessary to administer a whiff of gas, what harm will this do?

An objection that is frequently advanced is that these children might have severe reactions.

I am sure that it is the experience of all the urologists taking part in this symposium that they tolerate ureteral instrumentation very well, and that the number of cases followed by severe reactions are exceedingly small. As a matter of fact, it has been my experience that they stand urologic examination better than do adults.

Sex

In this series of cases there are forty-three boys and fifty-seven girls.

Sex had but a slight bearing on the distribution of the urologic lesions, except that pyelitis occurred more frequently in infant girls than in infant boys, twenty-eight of the former to three of the latter. It can be said without reservation that cystoscopy and ureteral catheterization can be carried out much more easily in girls than in boys, it being necessary only to dilate the short urethra in the former, whereas in the latter an external urethrotomy has been advocated by some authorities. In regard to this procedure, my experience has taught me that its performance is not necessary.

Age of Patients

Formerly it was generally assumed that these children, simply because they were children, could not be cystoscoped. Today these procedures are being carried out more and more frequently in children, and the literature upon this phase of the subject is steadily growing. The youngest child in this series in whom a cystoscopic examination was made was 27 days old. This boy was operated upon subsequently, and a badly infected half of a double kidney was found. Pyelograms were made when he was four months old.

Table of Ages

	No. Cases		*No. Cases*
27 days	1	1 to 2 years	5
5 weeks	1	2 to 5 years	26
5 months	1	5 to 10 years	30
7 months	1	10 to 14 years	27
8 months	1	Not stated	5
11 months	2		

Onset of Symptoms

Just as in other branches of medicine, the bad results of procrastination are evident when delay occurs and these little patients are deprived of a chance to avoid permanent damage to so vital an organ as is the kidney. A review of the table of ages shows that while many cases come under treatment early, there are a large number in which many years elapse between the onset of the symptoms and cystoscopic examination.

Table of Onset

	No. Cases.		*No. Cases.*
Under 1 month	9	5 to 10 years	6
Under 1 year	28	10 to 14 years	3
1 to 5 years	36	Not stated	18

Symptoms

It has been interesting, in reviewing the histories in this series, to analyze the symptoms of which complaint was made on admission to the hospital. The elicitation of symptoms may not always be accurate, because at times the history may be compiled from the statements of the mother or nursemaid or a nurse in the hospital or orphanage, who may not be a keen observer; hence, it is generally assumed that these histories are not accurate. Bearing this possibility in mind when writing the histories of some of the subsequent cases in the series, I paid particular attention to eliciting as careful a history as it was possible to get under the circumstances. The symptoms, in the main, tally closely with those encountered in the adult, except for the frequency of retention of urine, and this, as one might well imagine, is probably the result of the fact that little children do not have prostatic obstruction. On the other hand, residual urine was always found in the case of contracture of the internal urethral orifice. A careful review of the histories shows the symptoms given in the table. In some of the cases there were no symptoms at all, and the patients were brought in merely because of the accidental finding of a large tumor.

Table of Symptoms

	No. Cases		*No. Cases*
Fever	48	Difficulty	9
Pain	41	Irritability	8
Cloudy urine	38	Nausea	8
Frequency	33	Dribbling	7
Hematuria	28	Urgency	5
Vomiting	24	Sand	4
Incontinence	21	Sweats	3
Painful urination	19	Retention	3
Headache	12	Backache	2
Constipation	12	Tenesmus	2
Burning urination	11	Chills	1
Diarrhea	10		

Elements Found in Urine

	No. Cases		*No. Cases*
Pus	77	Sugar	2
Albumin	46	Oxaluria	1
Blood	36	Not stated	7
Casts	18		

Indications for Cystoscopy

The indications for cystoscopic examination are exactly the same in infancy and childhood as in adults. The verification of these indications may sometimes be difficult, since many

children cannot accurately describe their symptoms. Especially is this true in the treatment of infants. Because of the age of some of these patients, certain symptoms and signs may not be mentioned by the mother, the nursemaid, or the nurse in the hospital; but it seems to me that in every case a careful history of the patient and a complete physical examination plus a urinary examination will yield a clue that the urinary tract is the source of the condition. A review of these hundred cases shows that the following were the reasons most frequently found for having the patient subjected to cystoscopic examination and ureteral catheterization:

(1) The presence of pus in the urine with or without recurring attacks of pyelitis.—Pus in the urine was the most frequent single indication for urologic examination, having been found in seventy-seven cases. The presence of pus was part of either a recent or a remote attack of pyelitis. The majority of the patients had had one or more attacks of pyelitis before coming under observation, but a few of them were seen during an acute attack. The fact that pus in the urine did not respond to the usual forms of treatment was one of the common reasons for cystoscopic study. In another group belong the cases of persistent pyuria without any recent or remote manifestation of acute pyelitis. This is a far smaller but none the less important group.

(2) Presence of blood in the urine.—Whether blood in the urine occurs in infancy and childhood or in adults, it is always significant of organic disease in the urinary tract. In this series, thirty-six patients had blood in the urine, and in several instances complaint was made of profuse bleeding. I should like to emphasize here that every patient having profuse bleeding in the urinary tract, unless it is caused by an acute nephritis, should be subjected to urologic study.

(3) Abdominal tumor.—The presence of tumors in the abdomen is often discovered by accident by the parent, without any history of symptoms. These tumors demand investigation. In this series they were of two types. The first was caused by malignant disease of the kidney. Pyelograms, as a rule, are not made so often in infancy and childhood as they are in adults; nevertheless, there are cases in which a pyelogram should be made, otherwise the clinical diagnosis of renal malignancy cannot be verified. The second type is hydronephrotic tumors. There were a number of patients who came in with symptomless abdominal tumors, the origin of which was not clear. In these instances, urologic study was done at once to determine the origin and nature of the tumor. Some of the mothers ventured a statement that the tumor was not always of the same size and that at times it appeared smaller. In each instance in which this statement was made, hydronephrosis was found. In one case of recent date, in which the tumor was in the left upper quadrant, the problem called for a differentiation between spleen and kidney.

(4) Urinary symptoms.—In the main, the urinary symptoms in children correspond closely to the symptoms that would be present in a similar series of cases in the adult, with the exception that hematuria would probably be more frequent in the latter. Urinary symptoms of one sort or another often bring these patients in for study. A further discussion of the symptoms noted in this series will be mentioned below.

(5) Exclusion of lesions of the urinary tract.—Most of the publications which deal with this topic, and in which a large series of cases were reported, dealt for the most part with positive symptoms. Urology, until recently, has been concerned chiefly with establishing, strictly speaking, urologic diagnosis.

Lately, however, the urologist is called on more and more to institute differential abdominal diagnoses and frequently to differentiate between lesions of the right upper quadrant and the right kidney. As this special field becomes more and more developed and pediatricians avail themselves of this help, the variety of cases will become more and more varied and interesting, so that the urologist will find more cases in which his observations are negative. In this series there are six cases in which consultation was decided upon in order to rule out organic disease of the genitourinary tract.

Lesions of the Kidney

	No. Cases		*No. Cases*
Pyelitis	31	Pyelonephritis	2
Tuberculosis	4	Stone	2
Hemorrhagic nephritis	4	Hydronephrosis, noninfected	2
Sarcoma	3	Hydronephrosis, infected	1
Chronic nephritis	3	Double kidney	1

Lesions of the Bladder

	No. Cases
Stone	4
Contracture of internal urethral orifice with diverticula	2
Contracture of internal urethral orifice without diverticula	2
Diverticula	2
Angioma	1
Gonorrheal cystitis	1
Trigonitis	1

Lesions of the Ureter

	No. Cases
Stricture with hydronephrosis	11
Stone	2
Prolapse	1

Lesions of the Urethra	No. Cases
Congenital valves in posterior urethra	1

Lesions of the Prostate	No. Cases
Acute prostatitis	1
Chronic prostatitis	1

Lesions of the Nervous System	No. Cases
Spina bifida	4
Tuberculous kidney with spina bifida	1

Miscellaneous Lesions	No. Cases
Appendicitis	2
Appendicitis with peritonitis	1
Perforation of appendiceal abscess into bladder	1
Enuresis	2
Oxaluria	1
No pathologic change found, examination negative	3
Cystoscopic examination to exclude bladder pathology	3
No diagnosis made, examination incomplete	3

Conclusions

1. Urologic problems in infancy and early childhood resemble similar problems in the adult.

2. The technic can be mastered with practice, and once the operator becomes expert with the small instruments, no difficulties will present themselves.

3. At the present stage of advancement in medical knowledge, procrastination, in place of careful and complete urologic study in all cases that do not promptly respond to treatment, has not the shadow of an excuse.

4. Instrumental therapy, by which is meant lavage in pyelitis and litholapaxy in the treatment of stones in the bladder, can be carried out with the same precision as in adults.

5. The surgical treatment of the various lesions encountered presents no special problems.

ETIOLOGY, DIAGNOSIS, AND MEDICAL TREATMENT OF ACUTE PYELITIS IN CHILDREN

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Pyelitis, or better still, pyelocystitis, is one of the commonest diseases of childhood, yet one of the most overlooked entities. It occurs most frequently in patients under two years of age, yet is seen often after that age, when it is usually more severe. It is rare during the first six months of life. However, many cases are on record which existed during the first two weeks, some of these being undiagnosed or accidentally found through urinalysis in the search for an unexplained elevation of temperature.

The disease is more frequent in females, yet not to the extent often thought. Colon-bacillus infection during the diaper age is always more common in girls than in boys, yet the more severe infections associated with kidney lesions are as common in boys as in girls. Oftentimes this predominance depends on the actual causative factors, such as calculus, etc.

The greater majority of cases of pyelocystitis are caused by the colon-bacillus group, particularly in the summer following gastro-intestinal diseases; also in the winter following respiratory diseases, when they are complicated by the presence of streptococci or staphylococci. It is well to consider whether the disease is primary or secondary to some other infection of the body. Consequently, the colon bacillus may exist alone or in combination, and some of these other etiologic organisms are the diphtheroids, tubercle bacillus, typhoid bacillus, gonococcus, pyocyaneus, lactis aërogenes, etc. Despite the frequency of vulvovaginitis, infection of the kidney pelvis by the gonococcus is rare.

Retention, of course, favors the infection, and may be induced primarily by chilling, drafts, and exposure. Secondarily, it may be caused by malformations of the kidney, bladder, or urethra; renal or cystic calculus; infections, such as scarlet fever, typhoid fever, grip, diphtheria, septicemia, tuberculosis, or suppurative processes in the kidney; renal and cystic tumors; inflammation of the bladder; and particularly diarrheal and respiratory diseases. Over half the cases preceded by gastro-intestinal diseases are caused by Gram-negative bacilli. Over a third of the cases in the first year show the colon bacillus as the offending factor. In infants the disease is usually primary, or is ushered in by some digestive disturbance.

Infection of the urinary tract theoretically can occur in three ways: ascending, through the urethra; through the surrounding tissues by way of the lymphatics; or descending, through the blood. Due to the limited knowledge of local infections of the urinary passages, the hematogenous or transparietal routes are open to question, while the ascending route is quite proved and has many advocates. There is not sufficient evidence to localize the disease; consequently, the modes of infection are not definitely determined.

When the infection is apparently primary, it

is usually ascending, especially if the infant is a girl, yet it has been proved experimentally that it may occur through any of the three routes. The most frequent type of ascending infection is seen in connection with diarrhea. The higher rate of incidence in girls during the diaper age through the aforesaid route is no doubt due to the short urethra, the contamination being from the feces. A deficient ureteral valve in the bladder is also instrumental in allowing the infection to enter the bladder.

While the ascending mode of infection seems to be the one most often encountered, the descending, or hematogenous, route has also been proved, for it has been shown that live staphylococci and colon bacilli can be eliminated from the blood stream by way of the kidney without any apparent injury to the urinary tract. It has also been demonstrated that colon bacilli are absorbed in the gastro-intestinal tract and pass into the blood, where they are destroyed or excreted by the kidney. Tubercle bacilli and typhoid bacilli may be excreted in the urine with no evidence of kidney involvement, which also substantiates the hematogenous mode of infection.

The transparietal method of pyogenic extension is much questioned, yet some observers feel positive that bladder and kidney infections occur in this way. However, the ascending and blood routes are the more accepted in the light of present knowledge and evidence.

The diagnosis of pyelitis may be made from the presence or absence of symptoms, and it is one of the commonest undiagnosed conditions in childhood despite complete physical examination in the search for the cause of an obscure fever. Regardless of the complaint, no examination is complete without a urinalysis. This should be just as routine as the examination of the heart or throat, and if made, many cases of pyelitis would be detected early, with prompt cure and less suffering. Care must be exercised in obtaining the specimen of urine so as to exclude extra-urinary infection such as is found in vaginitis, etc. To insure that no contamination is present, it is best to secure the specimen by catheterization. The finding of a few pus cells is not sufficient evidence on which to base a diagnosis. There should be six to eight leukocytes, at least, in an uncentrifuged urine to indicate the presence of a definite pyuria. The symptoms may not direct attention to the urinary tract, as they are frequently mild and consequently are overlooked. Oftentimes the sudden onset of an enuresis suggests a possible pyelitis. Fever may be the only definite symptom, and if unexplained, the urine examination may show the presence of a pyuria. Such symptoms as chills, high and widely fluctuating temperature, scanty urine, with pain or tenderness over the kidneys, should at once suggest a pyelitis, which must be proved by urinalysis. Sometimes more than one examination may be required to find pus in the urine. Catheterization, and then culturing, will reveal the disease and causative organism.

In differentiating pyelitis, many conditions are to be considered. Cystitis, when there is a pus-producing state, is determined by bladder irritability and disturbance of micturition, with no pain or tenderness over the kidney region. The rupture of a renal abscess, or the discharge of a pyonephrosis must be ruled out, and they are usually diagnosed by cystoscopic examination. Cystic or renal calculus is also determined by this method. Bladder stones may be palpated rectally. The renal stone is usually unilateral. The x-ray may be of value in the presence of stones, yet some types of calculi do not show a shadow. In renal calculus there is pain and hematuria, associated with other symptoms. Uncomplicated nephritis gives rise to epithelial and granular casts and a different line of symptoms. If pyelitis coexists, the amount of albumin will be greater. The finding of tubercle bacilli with evidence of tuberculosis elsewhere in the body establishes that diagnosis. Other conditions to be considered are typhoid fever, malaria, and acute intestinal infections. Another frequent and overlooked diagnosis is that of appendicitis. If urinalysis or cystoscopic examination is made before operation, the removal of a normal appendix probably will not occur. This is an error in diagnosis which is very often made. I have seen three such failures.

As in any other condition, the treatment is preventive so far as possible. The various types of treatment reveal that none of them are one hundred per cent effective, and all have their supporters. Some prefer the alkali treatment, which is probably the best, others like the use of urinary antiseptics, and others alternate these two methods. The use of vaccines is not of much value, and, if employed, the autogenous should be the one of choice. Local treatment may be of service in chronic cases with ureteral catheterization of the kidney pelves, with washings and dye injections. This method is used in acute cases where there is blocking of the ureter. The irrigation of the pelves and bladder is usually effected with silver nitrate, boric acid, etc.

All patients are kept in bed for a week or ten days after the disappearance of fever. In older

children, if pus returns or increases upon allowing them to be up, they are again put to bed. Fluids should be pushed to the limit in these cases. If they cannot be taken by mouth, the stomach tube should be used. At least a quart in twenty-four hours should be given to an infant. Another method is to administer 60 to 100 c.c. of fluid every four hours by enteroclysis. Saline or glucose solution (5 per cent) may be given. This may be done through the skin also. If these measures fail, the intraperitoneal route of administration may be utilized. In this way 100 to 400 c.c. may be given. The subcutaneous and intravenous routes are also suggested. Whether the alkaline or antiseptic treatment is used, or both, the necessity for a large amount of fluid is always present.

In the alkaline treatment, litmus or methyl-red paper should be used constantly to be positive that the urine is rendered and kept alkaline. The alkalis of choice are sodium bicarbonate or citrate, or acetate of potash. Large doses are to be given. The use of sodium bicarbonate and sodium citrate in combination is of value in ten-grain doses six times in 24 hours for an infant under a year old. This may be increased. Usually when the urine is alkaline, the temperature drops, the symptoms subside, and the development of organisms is inhibited.

Hexamethylenamin, or urotropin, is the drug of choice in the urinary antiseptic treatment. Salol is oftentimes used, too. The former depends for its action upon liberating free formaldehyd. It is an irritant, and care should be exercised in its use, for a hematuria may result calling for immediate cessation. This drug is said to act in an acid medium, and if the urine is alkaline, the addition of acid sodium phosphate or benzoate, ten to fifteen grains a day, is given to render the urine acid. Urotropin is given in the amount of one grain per year of age four times a day. It, too, may be increased. In the use of this drug, the hydrogen-ion concentration is kept at about six, or between six and seven.

The alternating treatment is accomplished by rendering the urine alkaline for from four to seven days, and then acid for the same length of time, the aforesaid drugs being administered. This is done for weeks, or until cure results. Symptomatic recovery is easy, but it is very difficult to render the urine free of pus and bacteria. Two or three successive sterile urine examinations should be recorded before stopping treatment.

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CHRONIC PYELITIS IN INFANCY AND CHILDHOOD*

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Pyelitis holds an important place in the work of the general practitioner or pediatrician because of the frequency with which it occurs in the acute form. The emphasis placed on the necessity for examination of the urine of an infant who has fever that cannot be adequately explained has made failure to recognize acute pyelitis exceptional even though the symptoms do not indicate the site of the infection. In fact, in many cases of slight vaginal irritation, mistaken for pyelitis, treatment is instituted and cure follows more rapidly than in cases of true urinary infection. With the relief of fever, pallor, and anorexia, and the disappearance of pus from the urine, the parents, and sometimes the physician, lose interest in the treatment, and unless the infection is cured spontaneously it may become chronic. Recurrence of the disease is frequent, no doubt due in part to inadequate treatment and the flaring up of uneradicated infection. An infection may persist for months or years without being considered as other than a stubborn recurrence which yields symptomatically as soon as treatment is started. This type of the disease is not distinct from that which clears up rapidly after a single attack with or without treatment. Consequently, a patient may be treated for pyelitis spasmodically for five or six years. No physician will observe many such cases. If it were required that urine be free from bacteria before an infection could be considered cured, many chronic cases of pyelitis would be recognized earlier.

In contrast to the group of cases that have become chronic largely because of inadequate treatment, there is the group described in all textbooks of pediatrics prior to 1894, when Escherich emphasized the frequency of "coli-pyelitis."

In the cases described in the textbooks the chronicity of the infection was due to some obstruction to the urinary outflow, such as stone, tumor, stenosis, dilatation of the ureter or urethra, or abnormality of the bladder.

Recent work on the pathologic anatomy of pyelitis has shown that at necropsy changes are found in the pelvis and also in the renal parenchyma in practically all cases. If there is danger that a miliary renal abscess may break into the excretory passages at almost any time, treatment may not be successful. From the

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standpoint of the mode of infection, it is of interest to know whether the small focal lesions so often found in the kidney at necropsy are of coccal or bacillary origin, in the absence of urinary obstruction.

Chronic Pyelitis

Chronic pyelitis in my experience, is more common in the older child, but it is frequent enough in the infant to make the report of a few cases valuable.

Case 1.—A girl, aged ten months, had had severe pyelitis for six months. At intervals of from two to three weeks there had been recurrence of high fever with prostration and marked nutritional disturbances. The usual therapeutic procedures had had no effect. Cystoscopic examination revealed a large gaping ureteral orifice on the left with marked dilatation of both ureters. On the right the catheter met an obstruction about 2 cm. above the ureteral orifice. Cultures of the urine from both ureters showed bacteria. Marked cystitis was present. About a third of the urine consisted of pus. Congenital anomaly of the ureters was diagnosed.

Case 2.—A girl, aged three days, was found to have a mass in the lower part of the abdomen with marked distention. On the sixth day cloudy urine full of pus and bacteria was voided. A large amount of pus persisted in the urine in spite of alkalization, the administration of acriflavin and methenamin, and the forcing of fluids. During the first four months there were recurring febrile attacks, the temperature reaching 103°. The child's weight at the age of one year was 17 pounds. The bladder was usually palpable above the symphysis, and the residual urine amounted to between 120 and 180 c.c. At the age of one year cystoscopic examination revealed diffuse cystitis, relaxation of the internal sphincter, and normal ureteral orifices. There were no organisms in cultures of the urine from either ureter. A roentgenogram of the kidneys, ureters, and bladder was negative. Cord bladder was diagnosed.

Case 3.—A boy, aged six months, had been well until two weeks before examination, when a persistent cold had developed. The temperature had risen to 104°, and there were convulsions. The mother had noticed that the child seemed to strain when urinating. A catheterized specimen of urine showed albumin, graded 4, and pus, graded 4. For several months alkalization of the urine was carried out, but without success. The child left the city and was not seen until he was two and a half years old. A large spherical tumor was palpated, filling the lower part of the abdomen to above the umbilicus and decreasing in size on urination. Posterior urethral stricture was diagnosed, and suprapubic cystostomy was performed.

In a considerable number of cases of chronic pyelitis the infection dates from the early months of the first year, as illustrated by the following case:

Case 4.—A girl, aged two years, was brought to the Mayo Clinic because of attacks of fever accompanied by frequent urination and pyuria for the last fifteen months. Vaccine treatment had been carried out, but without benefit. The urine contained pus, graded 2. A roentgenogram of the kidneys, ureters, and bladder was negative. Alkalis and an autogenous vaccine were recommended. The child was brought to the Clinic again at the age of nine years. The mother had believed the infection had disappeared, until the last year, when the symptoms returned and pus was found in the urine.

Examination of the urine disclosed pus, graded 1, and innumerable colon bacilli on culture. The phenolsulphonephthalein output was 45 per cent. The residual urine amounted to 25 c.c. Roentgenograms of the kidneys, ureters, and bladder were negative. The blood urea was 18 mg. for each 100 c.c. Several cystoscopic examinations demonstrated that the bladder was normal. The function of both kidneys seemed good. The right ureter was dilated throughout. Methenamin and hexylresorcinol were given. Cultures of the urine continued to show bacteria, but no pus. In the next year only one attack occurred. There had not been pain or burning on urination. Medication had been continued throughout the year. Clinical and laboratory data were practically the same as before, except that the urine from the left ureter was essentially normal, whereas that from the right ureter contained innumerable colon bacilli. The patient returned to the Clinic a year later in good physical condition. The urine contained very little pus, but innumerable colon bacilli were present on culture.

As a rule, chronic pyelitis passes through an acute stage which subsides and the disease becomes dormant or relapse occurs. In exceptional instances, severe pyuria with evidence of marked renal destruction may appear when there is no history of a previous acute stage. This may have happened in the following case.

Case 5.—A boy, aged nine years, was brought to the Mayo Clinic because of pyuria. Nine months previously he had had scarlet fever, and three weeks later pus had been found in the urine. There had been increased frequency of urination but no other symptoms.

The urine contained pus, graded 3, and a few erythrocytes. Culture showed innumerable colon bacilli. The blood urea was 98 mg. for each 100 c.c. The phenolsulphonephthalein output was 30 per cent. A roentgenogram of the kidneys, ureters, and bladder was negative. The blood pressure was approximately normal.

The child was placed in the hospital for observation. The blood urea remained high and the output of phenolsulphonephthalein became still further reduced. Colon bacilli continued to be found in cultures of the urine. Because of the boy's condition cystoscopic examination was inadvisable, but indications pointed to a bilateral lesion. Methenamin and ammonium chlorid were administered, but without benefit.

When acute pyelitis becomes chronic, it is usually because of (1) severe nutritional disturbance, (2) focal infection elsewhere, (3) inadequate treatment, or (4) urinary obstruction such as hydronephrosis, stones of the kidney, ureter, or bladder, dilated ureters, duplication of ureters, neuromuscular dysfunction of the bladder, and stricture of the ureter or urethra.

Medical treatment in the form of improving the patient's general health, removing foci of infection, and instituting adequate medication, may be of value in the first three types of infection. Only surgical treatment offers a possibility of

cure in the fourth group, and then not in all cases. In any particular case there may be a number of causative factors. A patient with infected tonsils may also have a dilated ureter, and may not have received adequate treatment. If it is impossible to clear up the infection by any or all three types of medical treatment, complete urologic examination is necessary in order to determine the nature of the lesion.

Infants and children who enter the Mayo Clinic with urinary complaints, or even with suspicions of them, are examined for masses in the lumbar region or in the suprapubic area. The urine is examined chemically and microscopically. Urine for culture is obtained from female patients by catheter, and from male patients by retracting the foreskin, washing the glans, and catching the urine in a sterile test tube after allowing a few cubic centimeters to pass. Half of a cubic centimeter is cultured in brain broth and on blood agar. If infection is present, a roentgenogram of the kidneys, ureters, and bladder is made, and the phenolsulphonephthalein output, blood urea, and amount of residual urine are determined. If these tests are negative and the patient appears in good condition and is free from foci of infection, treatment is begun.

My reason for introducing this period of treatment before proceeding to urologic examination is that in the last six years it has been possible to clear up the infection in a number of cases of chronic pyuria which had apparently resisted treatment for months and years. In a series of ninety-four cases of chronic pyelitis, cure was effected in nineteen by intensive treatment, and in none of these cases was instrumentation required. Many patients did not remain for treatment. In the other cases the infection was either unaffected by medical treatment or there were symptoms that rendered complete urologic examination imperative. Abnormalities of the urinary tract were present in fifty-six cases, as shown in table 1. In twelve of the nineteen cases in which the condition was pronounced cured, the period of treatment was less than two weeks.

My experience has shown that the most useful urinary antiseptic in chronic pyelitis of infancy and childhood is methenamin, given with sufficient ammonium chlorid to render the urine acid to a hydrogen-ion concentration of 5.5 to 5.0. Results with acriflavin, phenyl salicylate, and caprokol have always led to a return to the use of methenamin. A tablet containing 1 gm. of ammonium chlorid and 0.5 gm. of methenamin may be given four times in twenty-four hours to a child aged seven or eight years. A child aged two years can take about half this dosage, and a child of one year about a fourth, with the amount of ammonium chlorid the same. The dosage of methenamin may be increased every third day until a catheterized specimen of urine is sterile on culture. If the hydrogen-ion concentration of the urine is about 5.5, 1 gm. of methenamin four times a day is usually enough to sterilize the urine of children aged from six to fourteen years. It may be necessary to increase the dosage to 2 gm. four times a day. If marked urinary frequency and urgency or hematuria indicate that the tolerance for the drug has been overstepped, medication is discontinued, water is forced, and sodium bicarbonate is given in doses of 1 gm. every four hours for twenty-four hours. The presence of formaldehyd in the urine may cause slight frequency, but is only an indication of the bactericidal character of the urine. The amount of methenamin necessary to render the urine bactericidal may be very close to the amount which causes irritation and hematuria in some patients, so that when patients are receiving large doses of methenamin, the urine must be examined daily. Without administration of sufficient methenamin, however, it is impossible to sterilize the urine.

Table 1

Classification of Ninety-four Cases of Chronic Pyelitis

Abnormalities of urinary tract present	*Cases*
Stones of the kidney	4
Stones of the ureter	1
Stones of the bladder	1
Pyohydronephrosis	6
Neuromuscular dysfunction of the bladder	23
Unilateral kidney	1
Ureteral anomalies	16
Urethral anomalies	4
Abnormalities of urinary tract absent	
Response to medical treatment	19
Unaffected by or not remaining for treatment	19
Total	94

In cases of uncomplicated chronic pyelitis it has been possible to eradicate the infection in a relatively short time, whereas in the same period only one case of pyuria associated with congenital anomaly of the urinary tract has been affected by treatment, and then only temporarily; however, even in the uncomplicated cases there is a tendency to recurrence.

Case 6.—A girl, aged seven years, was brought to the Mayo Clinic because of frequent painful urination. A catheterized specimen of urine was negative for pus and on culture. The roentgenogram of the kidneys, ureters, and bladder was negative. No reason for the urinary difficulty could be discovered.

The patient returned to the Clinic two years later, still suffering from frequency. She also had had attacks of fever with occasional dull lumbar pain. The urine showed pus, graded 1, and, on culture, innumerable

colon bacilli. The blood urea was 20 mg. for each 100 c.c. A roentgenogram of the kidneys, ureters, and bladder was negative and a left pyelogram showed nothing abnormal. Administration of methenamin and ammonium chlorid was started. Cultures were negative after about a week, but when medication was discontinued, organisms reappeared in the urine. After about three weeks of medication, two cultures of the urine were negative, but the organisms reappeared two days later. A right pyelogram and a cystogram were negative. Urine from both ureters was negative on culture. The patient is still under treatment, and the cultures of the urine continue to show innumerable colon bacilli (Table 2).

If, after a period of from two to three weeks of intensive medication, the infection does not disappear, I believe cystoscopic examination should be carried out, the ureters catheterized, and a cystogram and pyelograms made. If, in addition to chronic pyuria, tumor, hematuria, or colic is present, cystoscopic examination should be performed and pyelograms made immediately without therapeutic trial, provided there is no definite contraindication.

Table 2

Treatment in Case 6

Date 1927	*Medication*	*Bacillus coli in culture of urine*
Aug. 13	Started	
Aug. 16		—
Aug. 17		—
Aug. 18	Discontinued	
Aug. 19		—
Aug. 22	Resumed	+
Aug. 26		+
Sept. 2.		*
Sept. 6	Discontinued	—
Sept. 8		+
Sept. 10	Resumed	
Sept. 11	Discontinued	
Sept. 13		—
Sept. 15		—
Sept. 17		+
Sept. 20		+
Sept. 21	(Bladder irrigation for three days)	
Sept. 24		—
Sept. 26		—
Sept. 28		+
Sept. 30	Resumed	

Chronic Pyelitis With Abnormalities of the Urinary Tract

Cases of chronic pyelitis with anatomic abnormalities can be grouped under (1) infected hydronephrosis, (2) abnormalities of the ureter, such as duplication, dilatation, and abnormal opening, (3) posterior urethral stricture, (4) stones of the pelvis, ureter, and bladder, and (5) neuromuscular dysfunction of the bladder.

*Culture positive for streptococcus only.

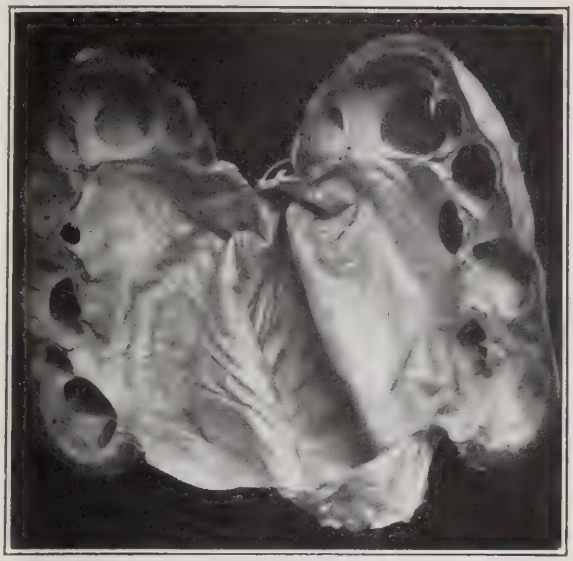

Fig. 1. Hydronephrotic kidney.

Case 7.—A girl, aged nine years, was brought to the Mayo Clinic because of attacks of abdominal pain accompanied by vomiting which had begun four years before. Two years previous, following an attack of pneumonia, a mass had been palpated in the abdomen. The attacks of vomiting had increased in frequency. Albumin had been found in the urine, but no pus or blood.

The child was underweight. The left kidney was palpable but not tender. The urine contained occasional pus cells, no erythrocytes, and only a faint trace of albumin. Culture revealed innumerable colon bacilli. The output of phenolsulphonephthalein was 25 per cent. The blood urea was 22 mg. for each 100 c.c. A roentgenogram of the kidneys, ureters, and bladder was negative. Cystoscopic examination revealed left hydronephrosis. Left nephrectomy was performed. The pelvis of the kidney was dilated to about 12.5 cm. in diameter. There was destruction of 80 per cent of the renal substance (see figure 1). No accessory vessel could be found to account for the hydronephrosis.

Case 8.—A girl, aged seven years, came to the Mayo Clinic because of pyuria, which had persisted in spite of treatment since she was one year of age. She was well developed and well nourished with a protuberant abdomen. The urine contained pus, graded 2, but was otherwise negative. Culture of the urine showed colon bacilli. The output of phenolsulphonephthalein was 50 per cent. The blood urea was 30 mg. for each 100 c.c. Cystoscopic examination revealed dilatation of the right ureter, pelvis, and calix.

Five-tenths gram of methenamin was given every six hours. The patient returned after a month of treatment, during which she had suffered an acute exacerbation of pyelitis. Right nephrectomy was performed. At operation a small kidney with two large dilated ureters was found. The urine continued to manifest colon bacilli on culture. Administration of methenamin and ammonium chlorid was continued until the urine became sterile, three months later.

Case 3 illustrates the difficulties encountered in a case of pyelitis due to posterior urethral stricture.

Case 9.—A boy, aged seven years, was brought to the Mayo Clinic because of hematuria. The mother stated that he had seemed listless and pale for about two years. Occasionally he had complained of pain in the right side. Three months previous there had been an attack of pain with fever and vomiting. At that time the urine contained blood, pus, and albumin, and colon bacilli were found on culture. Pain and hematuria had continued.

At the first examination, neither blood nor pus was found in the urine. The phenolsulphonephthalein output was 35 per cent. The blood urea was 18 mg. for each 100 c.c. A roentgenogram of the kidneys, ureters, and bladder revealed a shadow of the lower portion of the right ureter. Upon cystoscopic examination a stone, 4 by 2 cm., was located in the lower portion of the right ureter. Right ureterolithotomy was performed. A few days later pus was found in the urine, which yielded colon bacilli on culture. Methenamin and ammonium chlorid were advised. The boy left before sterile urine was obtained, and there have been no further reports.

Case 10.—A girl, aged ten years, came to the Clinic because of frequency of urination which had persisted since infancy. During the day there was no incontinence, but nocturnal enuresis had always been present. Until two years previous she had felt burning on urination and had had frequent attacks of sharp abdominal pain. Four years previous, albumin had been found in the urine.

The patient was well nourished. The urine showed pus, graded 3, and staphylococcus on culture, which was later replaced by *Bacillus proteus asiaticus*. Treatment with hexylresorcinol and methenamin and lavage of the bladder resulted in no improvement. Cystoscopic examination showed an irregular sacculated bladder with regurgitation up both ureters into pelves and calices, which were slightly dilated (see figure 2). Congenital atony of the entire urinary tract was diagnosed.

Fig. 2. Irregular sacculated bladder.

Treatment in this group of cases is difficult. If the lesion is unilateral, nephrectomy and ureterectomy may be performed. Stones may be removed if the renal function of the affected side warrants saving it. It is particularly difficult to know what to advise in a case in which there is moderate dilatation of the ureter with chronic infection on that side but with normal renal function. If the function of one kidney is reduced to less than one third and that of the other is normal, nephrectomy is justifiable.

Posterior urethral obstruction due to a valve can be overcome by resection of the valve. Treatment in cases of stricture is more difficult. Gradual dilatation may be possible, but it sometimes leads to complete obstruction because of edema following trauma.

Neuromuscular dysfunction of the bladder may be improved by transplantation of the ureter into the colon if there is no ureteral dilatation and the renal function is normal.

Restoration of normal urinary drainage is necessary in this group. Otherwise, with continued back pressure and infection, the renal parenchyma will gradually become involved and death will ensue.

Summary

Cases of acute pyelitis should be followed until it is certain that the infection has disappeared bacteriologically as well as clinically, in order that cases which cannot be cured medically and need special urologic examination may be recognized.

In a certain percentage of cases, chronic pyelitis can be cured by intensive use of methenamin with ammonium chlorid.

Infections which do not respond to treatment are usually complicated by anatomic obstruction of the urinary tract.

Early urologic examination and surgical treatment will prevent extensive renal injury from chronic infection and back pressure.

DIAGNOSIS AND SURGICAL TREATMENT OF UROLOGIC CONDITIONS IN CHILDREN

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Today, it is a well-recognized fact that children are subject to practically all of the various urologic lesions which are encountered in adult life up to the fifth decade, and we also feel that there is an increasing appreciation on the part of pediatricians of the importance of subjecting every child with signs and symptoms pointing toward lesions of the genito-urinary tract to a complete and thorough urologic examination.

With the small, but wonderfully perfected instruments of the present time, no child is too young to be cystoscoped, to have its ureters cathe-

Table 1

Tabulation of Cases According to Age

Age	No. Cases	Age	No. Cases
4½ Months	1	8 Years	3
8 Months	1	9 Years	4
15 Months	1	10 Years	4
2 Years	3	10½ Years	3
2½ Years	1	11 Years	3
3 Years	1	11½ Years	1
4 Years	3	12 Years	3
5 Years	3	13 Years	8
6 Years	1	13½ Years	1
7 Years	1	14 Years	4

terized, or to undergo ureteropyelography. Kretschmer[1] reports a cystoscopic examination of a boy 27 days old. Deming[2] cystoscoped, catheterized the ureters, and made pyelograms of an infant 29 days old. Seaman[3] reports an infant, aged 4 months, in whom a cystoscopy and ureteral catheterization had been performed.

The youngest patient examined in our series (see table 1) was a female infant 4½ months old, referred to the urologic service of the Polyclinic Hospital for determination of the cause of her pyuria. A complete cystoscopic examination was made, including ureteral catheterization and functional kidney test, the veins being so small that indigocarmin was injected into the superior longitudinal sinus through the anterior fontanel. The dye test enabled us to establish the fact that both kidneys were functioning normally; the catheterization of the ureters showed the urine obtained from the left kidney to be cloudy. The laboratory reported this urine to be loaded with pus cells and to contain many staphylococci and colon bacilli. The x-ray examination was negative for calculus, and we were able to establish the origin of the pyuria and report the diagnosis of pyelitis of the left kidney.

The modern cystoscope for infants enables the urologist to examine in minutest detail the urethra and bladder, and by means of ureteral catheters, both plain and x-ray, to establish the patency of the ureters, collect urine from each kidney, determine unilateral kidney function by means of indigocarmin or phenolsulphonephthalein, and perform ureteropyelography with the aid of an opaque medium, such as sodium iodid. Cystoscopy and ureteropyelography unquestionably are of the greatest help to the urologist in establishing the diagnosis of and size of vesical diverticula, hydro- or pyoureter, ureteral strictures, hydro- or pyonephrosis, movable kidney, localization of abdominal shadows, and renal tumor. Often it is also the best aid at his command in the differential diagnosis of abdominal tumors. (See table 2.)

It is true that many of these patients must have a general anesthetic, such as nitrous oxid, ethylene, or light ether, but it rarely, if ever, requires more than three or four minutes to examine the urethra and bladder and to catheterize the ureters. The anesthetic may then be withdrawn, the functional test be carried out, specimens of urine collected from each kidney, and pyelography performed, if indicated. It is, however, surprising to note the increasing number of these patients whom it is possible to subject to cystoscopy and ureteral catheterization, almost painlessly, under local anesthesia, if time and care are taken.

Mention must be made here of the invaluable aid to the urologist derived from the use of the various functional renal tests. Careful measuring and recording of the fluid intake and urinary output, when possible, and the various blood chemical analyses are important, but we refer particularly to the tests of renal elimination such as the phenolsulphonephthalein and indigocar-

Table 2

Tabulation of Lesions Found by Examination and Operation

Lesions of the Kidney	*Number of Cases*
Pyelitis	11
Tuberculosis	7
Calculus	7
Hydronephrosis	6
Acute nephritis	5
Pyonephrosis	4
Pyelonephritis	1
Ptosis	1
Lesions of the Bladder	
Calculus	5
Incrustations	4
Diverticula	3
Foreign body	1
Tuberculosis	2
Polyp of neck	1
Callous ulcer	1
Lesions of the Ureter	
Hydro-ureter	2
Stricture	1
Lesions of the Urethra	
Enlarged verumontanum	7
Recto-urethral fistula	1
Stricture	2
Lesions of the Nervous System	
Spina bifida	1
Spina bifida occulta	1
Miscellaneous	
Examination—no diagnosis	4
Abdominal tumor	1
Pelvic adhesions	1

Table 3

Summary of Cases of Pyelitis

Cases	Age	Unilateral	Bilateral	Organisms	X-Ray	Treatment	Result
M. M.	4½ Months	Left	..	B. Coli, Staphylococcus	Neg.	Drainage	Recovered
F. J.	8 Months	.....	+	B. Coli	....	Renal lavage	Improved
L. B.	2 Years	Left	..	B. Coli	....	Renal lavage	Recovered
H. McG. ...	2½ Years	Left	..	—	Neg.	Drainage	Recovered
A. R.	4 Years	Right	..	Gram Rod +	Neg.	Renal lavage	Recovered
S. F.	6 Years	Left	..	—	....	Drainage	Recovered
C.	9 Years	Left	..	..	Neg.	Drainage	Improved
K. G.	10 Years	.....	+	B. Coli	....	Renal lavage	Recovered
M. W.	11 Years	Left	..	—	Neg.	Renal lavage	Recovered
C. B.	12 Years	Left	..	B. Coli	....	Renal lavage	Recovered
A. H.	13 Years	Left	..	Acid-fast bacillus not T.B.	Neg.	Drainage	Improved

min. Especially do we prefer indigocarmin in the numerous cases of pyuria of renal origin. It not only is a helpful means of localizing the ureteral orifices in an inflamed bladder, but aids conclusively in establishing the difficult differential diagnosis between pyelitis and pyelonephritis. Haines and Milliken[4] have shown that the elimination of these dyes is not inhibited in patients requiring a general anesthetic if a preliminary hypodermic of morphin and atropin is administered.

Pyelitis

Pyelitis is by far the commonest lesion occurring in the urinary tract of children, and so far as sex is concerned, the lesion is encountered much more frequently in females than males. Kretschmer[1] reports that pyelitis was found in 25 girls and 2 boys in a series of 86 cases of various lesions of the urinary tract. In our series of 50 cases, pyelitis was found in 9 girls and 2 boys. A summary of these cases is shown in table 3.

Urinary Lithiasis

In 1912, Bokay[5] reported 1,836 cases of calculus in infants and young children, 1,819 in the bladder, and only 9 in the kidney. Rafin[6] collected and reported 322 cases of calculus, 140 in infants under one year and 26 in children between one and five years of age. J. O. Thompson,[7] reporting a series of 586 cases of urinary lithiasis at the Canton Hospital, China, found 222 in children under 15 years of age. In 1921, Thomas and Tanner[8] collected 203 cases of urinary lithiasis in infancy and childhood.

In our series there are 12 cases, 7 renal and 5 vesical. There were 4 cases of incrustation of the bladder. Six of the cases of renal and 6 of the cases of vesical lithiasis were operated upon with recovery. One case of vesical calculus was successfully treated by litholapaxy. Two of the cases of incrustation of the bladder were operated upon and two were treated locally, with cure in three cases and improvement in one.

Hydronephrosis and Pyonephrosis

Six in our series of 50 cases showed hydronephrosis and 4 had pyonephrosis. One case of hydronephrosis, due to stricture of the ureter at the ureteropelvic junction, gave a history of attacks of pain in the left kidney region, extending over a period of five years. Over a pint of urine was removed from the hydronephrotic sac at operation before the kidney could be delivered. The kidney substance was pressed out to a thin layer, and nephrectomy was performed, with recovery.

The second case occurred in a boy aged 13 who gave a history of pain in the right side of his back ever since he could remember. The x-ray was negative for calculus. Chromo-ureteroscopy showed normal elimination from the left kidney, but none from the right kidney for a period of twenty-two minutes. Pyelography showed hydronephrosis. He was then x-rayed in the upright position, and a movable kidney was demonstrated. A No. 6 F. ureteral catheter was passed up the ureter into the renal pelvis, showing absence of stricture. This patient's kidney was removed by the surgeon who referred the case, and the boy reports that he has enjoyed the best of health since his operation.

The third patient had had attacks of pain in the left kidney area for two and a half years. He had been x-rayed twice and examined by eight different physicians, with negative findings, before he was subjected to urologic study. Chromo-ureteroscopy showed normal elimination of indigocarmin from the right kidney, but no function from the left kidney in fifteen minutes. Pyelography demonstrated hydronephrosis of the left kidney. This kidney was not movable. Operation revealed two anomalous vessels entering the

lower pole of the kidney and crossing the ureter immediately below the hydronephrotic sac. These vessels were severed between ligatures, and one month later chromo-ureteroscopy demonstrated normal elimination of indigocarmin.

Two of the other cases occurred in patients with spina bifida on whom an operation was not done. The sixth case was diagnosed but not operated upon.

Pyonephrosis was diagnosed in 4 patients. Cystoscopy showed pus coming from the affected kidney. Chromo-ureteroscopy demonstrated normal elimination from the nonaffected kidney and no elimination of dye from the affected side. In one case, a calculus was demonstrated by x-ray. This boy had had symptoms for ten years. Renal calculus had been diagnosed, but his parents had been advised against having it removed. He finally developed calculus pyonephrosis and had to have his kidney removed in two stages. The second patient had a nephrectomy, and is now, eight years later, in the best of health. The other two cases were not operated upon, but were reported improved.

Tuberculosis

Eight cases of tuberculosis of the kidney and one case of tuberculosis of the bladder, with involvement of the epididymis, vas deferens, and seminal vesicle, were studied in this series. Cystoscopy and indigocarmin played the stellar rôles in definitely localizing the kidney or kidneys involved by the infection. In five cases the infection was localized in the one kidney, and in three of these patients the diseased kidney was removed, with recovery in each case. The other two cases were referred only for examination, and were not operated upon. One died three years later, not having had an operation. The other case we have been unable to trace. Two of the seven cases showed involvement of both kidneys, in one of which there was marked infection of both kidneys two months after the onset of urinary symptoms. The patient died fifteen months later. The other died three months later.

The case of tuberculosis of the bladder with genital involvement is interesting. Voided specimens of urine showed tubercle bacilli by smear and guinea-pig inoculation. Cystoscopy showed tuberculous cystitis and a highly inflamed verumontanum. Indigocarmin, intravenously, appeared from the left and right kidneys in three and four minutes respectively. The catheterized specimens of urine from each kidney were clear, and tubercle bacilli were not found by stained smear or guinea-pig inoculation. This patient improved under a supervised dietetic and hygienic régime and tuberculin.

Diverticula of the Bladder

In three cases, diverticula of the bladder were found. In two of the cases the diverticula were multiple and occurred in patients with spina bifida. Cystography in both of these cases showed that the opaque solution injected into the bladder had found its way into the kidney pelvis.

The third case occurred in a boy aged 12, who was perfectly well up until two years before he was subjected to urologic study. The history of this patient and the failure to find an obstructive lesion led us to believe that this was a congenital diverticulum of the bladder with a superimposed infection, which in turn produced calculus incrustations of the bladder. Cystoscopy and cystographic examinations showed a single diverticulum, the orifice of which was situated in the trigonum close to the internal vesical sphincter. This case was considered inoperable, but the vesical incrustations showed improvement under intravesical instillations of cultural suspensions of Bacillus bulgaricus.

Nocturnal Enuresis

Nine cases of nocturnal enuresis were subjected to urologic study and treatment. In two of these cases various urologic lesions were found—hydronephrosis, hydro-ureter, diverticula of the bladder, spina bifida, and spina bifida occulta. One of these cases showed improvement under treatment for pyelitis and cystitis. Seven cases showed congested and enlarged verumontana with granulation tissue on the vertumontanum in five cases. One case showed a small polypoid growth on the posterior aspect of the verumontanum, which was destroyed by fulguration. This patient obtained complete relief. The lesions on the verumontanum in the other six cases were fulgurated with a Bugbee electrode and d'Arsonval current, with practically instant and complete relief in every case.

Summary

1. No infant or child is too young for a cystoscopic examination.

2. An early and complete urologic study should be made of infants and children having pyuria and hematuria. This should include cystoscopy, chromo-ureteroscopy, ureteral catheterization, and x-ray, and, if indicated, ureteropyelography and cystography.

3. The diagnosis and surgical treatment of urologic surgical lesions in infancy and early childhood present the same problems as in urology of the adult.

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PRACTICABILITY OF THE MODERN CYSTOSCOPE IN THE UROLOGY OF INFANCY AND CHILDHOOD

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Development of the Cystoscope

The cystocope is a product of the present century, the comparatively early years of which produced highly efficient instruments for use in adults, but it is only recently that particular attention has been directed to the production of equally satisfactory cystoscopes for use in children. The "infant" cystoscopes are necessarily small in caliber, the reduction in size being attained by omitting or lessening the functional value of certain features that combined to make the adult cystoscopes highly serviceable. Mr. Reinoehl Wappler, whose mechanical genius, together with the clinical experience of a number of our urologists, including Tilden, Brown, Otis, McCarthy, Beer, and Butterfield, has resulted in the perfection of American cystoscopes, tells us that future diminution in the size of these instruments will depend upon improvements in the lens system. Mr. Wappler has already improved the latter so that conservation of light and the diameter of the visual field of the small cystoscopes are equivalent to those of the adult cystoscopes of just a few years ago. As an example of reduction in size of these instruments by omission, the elimination of the facilities for irrigation may be cited; in fact, this important feature is wanting in several of the small cystoscopes, and is imperfect in most of them. Some reduction in size may be attained by omitting one catheter channel, although provision for simultaneous bilateral ureteral catheterization is a desirable feature.

At the present time, the smallest double catheterizing and irrigating cystoscope is size No. 15.5 French, and the probabilities of further practical reduction in the size of this type of instrument are exceedingly remote. The small cystoscope just referred to was designed by Butterfield in 1924, and is of the direct-vision type, with a fixed optical system. By adopting the direct-vision principle, Butterfield was enabled to eliminate the Albarran catheter deflector. This, together with fixation of the optical system, and minimizing the size of the irrigating space, served to reduce materially the caliber of the sheath. This instrument permits the simultaneous introduction of two No. 4 ureteral catheters and the removal of the scope over them, thus permitting the establishment of bilateral renal drainage by catheter in very young children. It provides a satisfactory visual field, but imperfect irrigating facilities, the evacuation of blood clots and heavy mucopus being impossible.

The Butterfield cystoscope, which may be used successfully in the examination of infants of both sexes, is a product of the Wappler Company of New York, as is also the instrument designed by Edwin Beer. The latter is a simple, examining, nonirrigating, indirect-vision instrument, size No. 11.5 French, to which may be clamped a single catheterizing attachment, the addition of which increases the size to No. 15 French. The catheter channel will accommodate one No. 4 catheter. The Beer cystoscope used without the

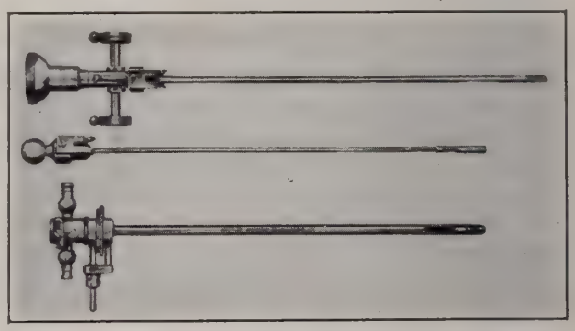

Fig. 1. Brown-Buerger single catheterizing, irrigating cystoscope

catheterizing feature is especially useful for inspection of the bladder in infants. Wolf, of Berlin, furnishes a simple examining cystoscope, size No. 7 French, and also a single catheterizing and irrigating instrument, size No. 12 French. The latter will accommodate one No. 5 catheter, and is an exceedingly valuable instrument for use in the very young. A simple examining and irrigating instrument, size No. 10 French, of German manufacture, may also be had. All of these instruments were designed by Professor Gauss, and are of the indirect-vision type.

Difficulties as Regards Age and Sex

Infantile cystoscopy necessitates the employment of general anesthesia, and in male infants, the introduction of an instrument is often a difficult procedure. Our preceding remarks would indicate that technical imperfections in small cystoscopes offer serious handicaps, but

while they contribute to the difficulties, the expert cystoscopist can make a satisfactory and most complete study of the urinary tract in infants of both sexes. The difficulties concern only the introduction of the instrument and the provision of a clear medium. The somewhat contracted diameter of the visual field and the employment of small ureteral catheters are only slight disadvantages. The urethra of the female infant may be dilated to a size sufficient to admit an adult double catheterizing cystoscope, size No. 24 French, and, while we have done this in the past in the case of baby girls several months of age, it is inadvisable on account of the danger of permanent paralysis of the sphincteric mechanism due to overstretching. Nor is it necessary, inasmuch as the Butterfield cystoscope or a single catheterizing Buerger instrument, size No. 16 French, may be used with perfect satisfaction. With the latter, one catheter is inserted, and the scope, having been removed over it, is reinserted and the other ureter catheterized. This maneuver takes only a few moments, and in girls of five or six years or over it may often be accomplished under local anesthesia. Cystoscopy in the female is a simple matter, and especially so in comparison with the same procedure in male infants.

The urethra of the latter must be dilated, and the meatus enlarged by incision to permit the passage of any of the existing models of catheterizing instruments. The dilatation should be done immediately preceding the proposed cystoscopic examination, using for the purpose woven bougies. This procedure demands extreme gentleness, and experience breeds only respect for the delicate urethral walls of these small patients. Notwithstanding the considerable stretching of the tissues, the operation may be performed bloodlessly and safely by gentle hands. Children stand urethral instrumentation surprisingly well. It has been said that the reactions seen after cystoscopy in adults do not occur in children. While we cannot agree in this, the reactions are not more severe in children than in adults, as observed in our work.

Selection of Cases

There are certain contraindications to urethral instrumentation in patients of all ages, and some peculiar to children. Marked functional destruction of the kidneys is a very positive contraindication to cystoscopy, although with treatment the renal function may improve so that the examination may be undertaken with comparative safety. We find that the pediatrician frequently fails to employ the modern methods of determining renal function in surgical renal cases, either for diagnostic purposes or as a means of estimating the relative safety of cystoscopic examination. The same is true of the profession at large in their attitude toward urologic disease in the aged. Old prostatics presenting the glaring signs of impending uremia are often referred for office cystoscopy, a procedure which is dangerous and may be fatal in patients with grave renal dysfunction. It is highly necessary, therefore, to employ every diagnostic means before cystoscopic examination is undertaken.

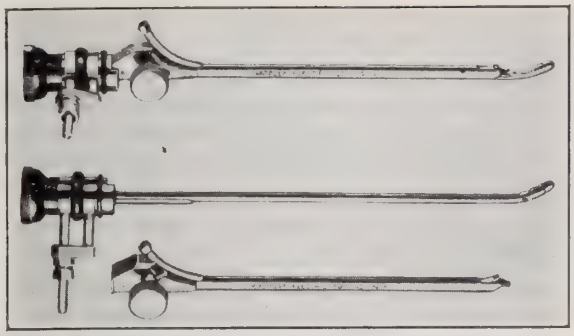

Fig. 2. Edwin Beer's infant cystoscope. The catheterizing channel is removable.

Pyelitis, which is the most common surgical disease of the kidneys in childhood, is the common source of the pyonephroses of adult life necessitating nephrectomy, the advanced condition arising in those cases which have failed to improve under medical treatment. In this group of cases the neglect of cystoscopic treatment results in renal destruction, a fact which emphasizes the great importance of employing the method in the presence of persistent pyuria. The majority of children with pyuria, especially if the patient is a female, have had cultures of the bladder urine made, and have received large doses of autogenous vaccines before they are brought to the urologist. It is rare indeed that one of these little patients has been studied for urinary tuberculosis, renal stone, or other lesions that may give rise to, or be associated with, urinary infection. Children with pyelitis or pyelonephritis either get well promptly under medical treatment, the infection subsiding into a chronic state with partial or complete disappearance of the clinical symptoms, or with the

Fig. 3. The Butterfield double catheterizing cystoscope.

long persistence of symptoms or their frequent recurrence, the child is brought to the urologist, of whose existence the parents have learned from a lay friend. The contraindications to cystoscopy in the young are added to by the necessity for general anesthesia, the effect of the anesthesia on the renal parenchyma being of importance.

In cases of urinary retention due to congenital obstructions in the region of the bladder outlet, careful decompression of the dilated urinary tract and restoration of renal function must be accomplished before cystoscopic examination is even relatively safe. In many of these cases as much, or more, may be learned by cystographic study as by cystoscopy. Prolonged hematuria in children is an indication for cystoscopy only after true nephritis has been ruled out with absolute certainty. The greatest caution must be observed in advising cystoscopy in the presence of marked anemia or dyscrasias leading to great loss of vitality. Unnecessary cystoscopic examinations are equally to be condemned with the neglect of this procedure in cases in which neither the diagnosis nor adequate treatment can be attained by more simple measures. Through proper coöperation between urologists and pediatricians, errors, both of omission and commission, in the diagnosis and treatment of urologic diseases among children will be minimized.

Anesthesia

General anesthesia is necessary for the cystoscopic examination of children under the age of five years, and in a proportion of older children, but in the latter largely for psychic reasons. We have made complete examinations, including pyelography, in boys five years of age under local anesthesia, employing for the purpose usually a Buerger single catheterizing instrument size No. 16 F. The psychic factor alone interferes with the successful accomplishment of cystoscopy under local anesthesia in children of both sexes after the age of five years; there are no insurmountable technical difficulties encountered in the manipulation.

For cystoscopic examination, children should be placed in the horizontal position, without elevation of the legs, especially if the procedure is to be done under local anesthesia. Ether or chloroform are employed in the case of infants, and gas-oxygen for older children. Novocain (2 per cent) is employed routinely for local anesthesia. In using the latter, every effort must be made to eliminate the sights and sounds suggestive of instrumentation. A preliminary injection of morphin does much to allay fear. Meatus injections of the novocain solution are made by means of a blunt-nozzle syringe, the procedure being screened from the patient's view. The injection is made very slowly, care being taken to avoid sudden overstretching of the urethral walls, which is productive of pain with or without lacerations. Usually, the solution finds its way into the bladder. After an interval of five minutes, a small soft-rubber catheter is inserted, the bladder emptied and cleansed if necessary, and additional novocain injected into the bladder and deep urethra. Three ounces of sterile water are then injected into the bladder and the catheter is removed. The successful accomplishment of the foregoing steps almost invariably insures the success of the cystoscopic examination in so far as the introduction of the instrument is concerned, and its painless manipulation.

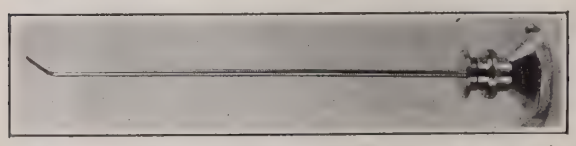

Fig. 4. Simple examining, nonirrigating cystoscope for children, designed by Gauss of Berlin.

There is practically no danger of drug poisoning in the use of novocain in the urinary tract the mucous membrane of which is intact, but there is considerable danger in the use of the drug in a lacerated urethra, the reactions being at times very alarming. If the preliminary meatus injection described above should cause urethral bleeding, however slight, the attempt to complete anesthetization should be abandoned. We see no reason to employ sacral anesthesia in children for cystoscopic examinations. General anesthesia is essential for infants, and the failures under local anesthesia in older children are due to psychic reasons which cannot be overcome by sacral anesthesia. Perhaps in a very few cases with extremely intolerant bladders in which there is great difficulty in obtaining a clear medium, and in which prolonged examinations are necessary, sacral analgesia may serve the same useful purpose in children as it does in adults.

Technic

There are few technical variations peculiar to infantile cystoscopy. We employ, whenever possible, the single catheterizing Buerger scope because it provides perfect irrigating facilities and a fine visual field. Each ureter is catheterized in turn and specimens collected, after which an indwelling catheter is placed in the ureter on the suspected side and the cystoscope removed over it. Further studies may be made at one's leisure after the patient has recovered from the effects of the anesthetic. The same technic may

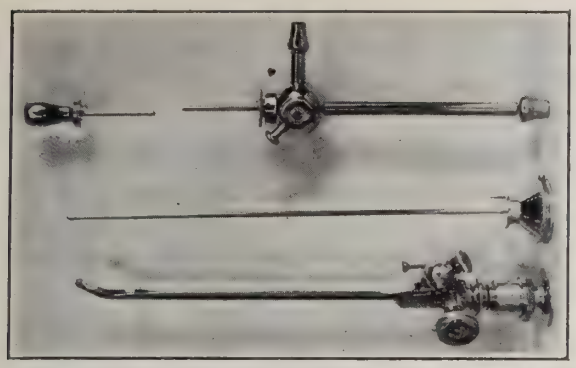

Fig. 5. Single catheterizing, irrigating cystoscope, designed by Gauss of Berlin. The upper figure shows the irrigating attachment, the middle one the telescope, and the lower one the assembled instrument.

be followed in the use of the Butterfield instrument, placing an indwelling catheter No. 4 in each ureter. It is highly advantageous to practice ureteral catheterization in the study of surgical renal diseases, but much may be learned about differential function by chromo-ureteroscopy. This comprises the visualization of the ureteral orifices through a simple examining cystoscope and notation of the elimination time and relative intensity of indigocarmin in the urine as it comes from the ureteral openings after intravenous injection. The method is particularly applicable in the cases in which the introduction of the catheterizing instrument is extremely difficult, and is especially useful in the differentiation between intra- and extrarenal tumors in infants.

Ureteral catheterization should always be practiced, if possible, not only as the means of obtaining segregated specimens and doing accurate functional studies, but also for purposes of pyelographic demonstration of the lesion. The latter calls for great caution to avoid overdistention of the infant kidney, the capacity of which is several cubic centimeters. The safest method is probably by gravity control of the injection under the fluoroscope, but we adhere to the syringe method. The pelvic capacity is measured, using normal salt solution as the medium. Several c.c. of the solution are injected, after which the syringe is removed to note the rate of return flow, which, if rapid, denotes increased intrapelvic tension. This test is made after the addition of each two c.c., and when the tension is fairly marked, the injected fluid is removed by aspiration and a somewhat smaller quantity of the pyelographic medium is injected painlessly and safely and with the assurance of obtaining a satisfactory pyelogram. We have made several thousand pyelograms with this technic in patients of all ages without a fatality and with very few serious reactions.

Conclusions

1. Infantile cystoscopy, while more difficult than adult cystoscopy, is a thoroughly practical and safe procedure.
2. American urologists and manufacturers have produced highly efficient instruments for use in the very young.
3. The technical variations of cystoscopy in childhood are few in number.
4. The small cystoscopes provide a rather small visual field, permit only the passage of small ureteral catheters, and the irrigating facilities are far from satisfactory; but these are merely handicaps and not insurmountable obstacles to complete study of the urinary tract in infants and children.

Medical Arts Building.

ENURESIS—ITS ETIOLOGY AND TREATMENT*

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Throughout infancy the diet is liquid, and the quantity of urine excreted necessitates frequent emptying of the bladder. As an increasingly large proportion of the diet becomes solid, the need for such frequent passage of urine becomes less, and by 18 or 24 months of age the child should have gained control of the bladder. It is usually, however, the fourth or fifth year before bed-wetting impresses itself upon parents as an abnormal condition, and even later that it is brought to the attention of physicians. Untreated, enuresis will, in a considerable proportion of cases, cease spontaneously at about the eighth year, and in a great majority of cases at puberty. Rarely, however, it persists into adult life. The condition is generally nocturnal only, and it is this phase with which we are mainly concerned in treatment.

It has been demonstrated that in children the detrusor muscle is thicker and stronger and the sphincters correspondingly weaker than in adults. This is offered by Chetwood[1] as an explanation of enuresis, and the deduction seems logical in view of the age incidence.

The desire to micturate occurs as a result of a sense of fullness in the bladder caused by the pressure of accumulated urine. Sensory stimuli are transmitted to the higher center, which removes its inhibitory control from the lower center, and brings about a reflex contraction of the bladder. This is the normal sequence of events leading up to micturition. The bladder, how-

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ever, is extremely sensitive to reflex stimulation; and local irritation, sensory stimuli from various sources, and psychic acts are liable to cause its contraction.[2]

Any condition, then, which brings about a polyuria may produce nocturnal enuresis. It is an experience common to all that sleeping cold causes a diuresis. An excessive fluid intake and the use of tea or coffee are possible causes. Among pathologic conditions, there may be enumerated diabetes, both mellitus and insipidus, a compensated nephritis, and vesicle or renal calculi. Recently Friedell[3] has shown that a reversal of the normal day and night specific gravity of the urine was present in three cases of enuresis which were resistant to treatment. The assumption would be that since the night specific gravity is lower, there would be a relative nocturia in these cases as compared with the normal. Friedell's figures show a slight but not striking difference in this regard. They do show, however, an average 24-hour output of 775 c.c. against 512 c.c. for the normal concentration group, despite the fact that the latter averages older in years.

Enuresis may be reflex in origin. Many conditions causing a local irritation may be responsible:[4] phimosis, adherent foreskin or clitoris, balanitis, epispadias or hypospadias, vaginitis, renal or vesicle calculi, pyelitis and cystitis, tuberculosis of the genito-urinary tract, pinworms, lack of cleanliness, and skin diseases of the external genitalia. Masturbation, spina bifida, myelitis, and nocturnal epilepsy have been found culpable.

There is still left a large group in whom enuresis must be considered idiopathic, or a nervous symptom. The individuals of this group range from the essentially normal, through the nervously hyperexcitable, to the psychopathic and the frankly mentally deficient child.

Nervously hyperexcitable children respond with abnormally strong reactions to all stimuli. Punishment, pleasure, fright, each produces a highly excited state with a consequent reaction on urinary secretion and micturition. Exciting after-supper games and frightening stories lead to dreams in which the sensation of micturition may be experienced and bed-wetting result.

It has been observed that many psychopathic children are heavy sleepers. They are more difficult to awaken than the normal child, and the physiologic impulse to urination fails to pass the threshold of sleep. Pototsky[5] further subdivides these psychopathic children into four groups. First, the obstinate children whose lack of inhibition is due to a desire to annoy their parents. These are frequently incontinent by day, and at night the lack of inhibition is continued subconsciously in response to a conditioned reflex. Then there are those excessively anxious children whose incontinence is based on fear of punishment. The third group comprises those with a decreased capacity for attention and concentration. They fail to heed the need for urination. A fourth is a totally indifferent group, on whom it is difficult to make impressions of any sort.

Before instituting treatment in any case of enuresis, a careful history is essential. This should bring out whether the condition has persisted from infancy or started later, and the presence or absence of frequency or of polyuria. It should include a résumé of the daily régime, the dietary, drinking, and hygienic habits. It may bring to light the existence of habitual masturbation, but it is likely that a few nights of careful watching must be instituted to show this and likewise to rule out the presence of nocturnal epilepsy in refractory cases.

It is possible by physical examination to determine the presence or absence of most of the causes of local irritation enumerated above and at the same time to gain a fairly good idea of the child's psychic reaction.

A careful examination of the urine should be made, including a fresh and a 24-hour specimen, collected in day and night portions. From this may be obtained evidence of the presence of hyperacidity, polyuria, a reversal of the normal day and night concentration, diabetes mellitus, pyelitis, calculi, and nephritis.

An x-ray for renal or bladder calculi or spina bifida occulta may be necessary.

Treatment

Local: In any case showing an increased urine output, treatment must naturally first be directed at the cause of this condition. So, too, must the source of local irritation be removed. It is well known that circumcision sometimes results in an immediate cure.

General: In every case a general régime should be instituted. This should include: (1) Regulation of the diet, with interdiction of all tea, coffee, cocoa, and salt meats. (2) Restriction of fluids after the noon meal, but insuring a copious supply in the morning. (3) Exercise in the fresh air in the afternoon. Avoidance of all violent play and excitement at night. (4) Care as to the cleanliness of the genitalia. (5) The bladder should be emptied just before going to bed. (6) The child should sleep alone, in fresh air, and warmly but not excessively covered. (7) He should be thoroughly awakened, made to walk to the toilet, and pass his urine

about 10 or 11 o'clock. (8) Many physicians have advocated strengthening the sphincters by practice in starting and stopping the stream. This has the danger of fixing the child's attention on his weakness, and thus increasing the neuropathic element. As an alternative, the sphincter may be strengthened and at the same time the child taught that it is not necessary to empty the bladder as soon as a sense of fullness is felt, by attracting his attention to other things as the time for micturition approaches. The importance of this is emphasized by Patterson's[6] finding of frequency in 75 per cent of a large series of cases.

Psychotherapy: A wide range of psychotherapeutic procedures have been tried, and each seems to have been to a large extent successful in the hands of its particular advocate. It would seem that the method must be chosen by the individual physician with due regard to his own talents and to the type of child and parents with whom he is dealing. Conviction of the efficacy of his method is essential to success. A parent left skeptical of the chances of a cure is the first step toward failure.

Friedell[3] and others have advocated subcutaneous injections of sterile water at weekly intervals, the number of doses depending on the result. Care is taken to impress the child that this treatment will result in a cure, but warning added that in case of a relapse, there will be more injections. He reports total success in 87 per cent of 39 cases. This would seem a favorable method for the reasonably impressionable normal child.

For many children, the treatment used with success by Porter,[7] an elaboration of the method originally suggested by Dunham,[8] is preferable. Coöperation of both parent and child is essential. Success depends largely on the ability to arouse in the child a desire to overcome his habit and on maintaining his interest.

The patient is allowed to tell his own story. He is told how other children have done what he is going to do and succeeded. He is then given a card on which is printed four associative sentences:

I will not wet the bed.
I will wake up at ten o'clock.
I will get up and pass water.
I will not wet the bed any more.

This is repeated ten times, twice a day, once during the act of urination and once just before going to sleep. The card is then put under the pillow. At ten o'clock the child awakes or is wakened, made to walk to the toilet, and pass water.

The mother procures a blue card and a supply of red and gold stars. After each successful night the child personally pastes on a red star, and after each wholly successful week a gold star. After the first three consecutively successful nights he is allowed to call the physician on the telephone and tell of it. Weekly visits are made to the physician's office to report progress. A reward is promised at the end of three successful weeks. In dispensary practice a valuable addition is the formation of classes of enuretics.[9]

The use of drugs in connection with this treatment is not essential, though they may at times be of value as a placebo. The finding that the results of various supposedly specific measures[10, 11] could be duplicated by control series,[12, 13] and the success of psychotherapeutic measures without the use of drugs, make the latter of decidedly secondary importance. In the present state of our knowledge, glandular therapy must be relegated to a similar position.

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ABSTRACT OF DISCUSSION

Of Symposium on Urology in Childhood

Alfred Hand, M.D. (Philadelphia, Pa.): The following suggestion is made to urologists as the result of a rather unpleasant experience I had with a child suffering from chronic pyelitis. We did not succeed in clearing the urine of pus, so referred the patient to a urologist, who took the child to a hospital for a phenolsulphonephthalein test. When the injection was given, a very large needle was used and the cut of the needle was not closed. The child returned home in a few days with an area like erysipelas around the puncture. Children are very susceptible to hypodermics, as I discovered in giving treatment for diphtheria. If the puncture of the ordinary hypodermic needle is not closed up with careful antisepsis, very frequently redness of the arm follows.

I have hardly ever seen a case of ordinary acute pyelitis in a boy. The majority of our cases of pyelitis are secondary to infection of the upper air passages.

Alexander Randall, M.D. (Philadelphia, Pa.): Would it not be advantageous for pediatricians to forego for a time the diagnostic term "pyelitis"? For some years we have striven to do the same with the word

"cystitis," pointing out, as is now conclusively shown, that this never occurs as a primary condition, but is always secondary to other pathologic changes. It is doubtful if there is such a thing as simple primary pyelitis, though such a diagnosis is frequently made. My suggestion would be to use the word "pyuria" in its place, for apparently the vast majority of these cases in children are not examined cystoscopically, and certain it is, when speaking urologically, that we dare not make such a diagnosis as pyelitis without taking advantage of this means of determining the origin of pus in the urine. Dr. Kretschmer has shown that there are very few cases which, when thoroughly studied, resolve themselves into pyelitis. Only too frequently the finding of pus in the urine has proved to be due to gross urologic pathology, in the vast majority of cases demanding early surgical intervention.

Ralph M. Tyson, M.D. (Philadelphia, Pa.): I should like to ask Dr. Helmholz whether the repeated catheterized cultures taken in one of his cases might have had some influence in maintaining infection in the urinary tract.

Dr. Helmholz (in closing): There is no reason to assume that repeated catheterization causes infection of the bladder if done in the proper way. It is unlikely to occur with our technic.

I do not know the exact number of cases in boys and girls, but the incidence is about the same in each sex.

"Pyelitis" seems to have been adopted by pediatricians as a clinical term indicating an infection of the urinary tract. Dr. Randall's objection is entirely valid. Pyelitis designates a more or less sharply defined clinical entity. It is true that this term is not quite correct. If any of these patients come to autopsy, they practically all show pyelonephritis, so this should in all probability be the term used, as it covers the entire group. We never know whether the kidney is actually involved, but that is as close as we can come.

I believe that there are a certain number of cases in which there is recurrence of the infection; but I am unwilling to believe that there are many such cases until some one proves that these patients have had sterile urine, and nobody has been able to do that. Until at least two sterile cultures have been obtained after discontinuing therapy, the infection cannot be assumed to have disappeared. In many infections that apparently recur there has been a bacteriuria during the entire period. There is a group of unusual cases in which there is a bacteriuria but never a pyuria.

The presence of pus cells in a specimen of urine obtained without proper precautions is not sufficient basis for a diagnosis of pyelitis.

I have been very much interested in modes of infection, but unfortunately have made little progress with the study. I do feel, however, that there is proof that organisms injected into the blood stream are not eliminated by the uninjured kidney. Certainly, virulent colon bacilli do not appear in the urine for a period of from five to seven hours after injection, provided the kidney is not injured. During the past two years we have been studying spontaneous bacilluria in the rabbit. Out of twenty-five instances, twenty-two infections were limited to the bladder. In a single instance, the urine from the renal pelvis also showed organisms, and in two other cases there were bacteria and pus in the urine taken from the renal pelvis. It seems probable that in spontaneous bacilluria the infection is ascending. That seems to be the logical interpretation of our observations, and it is practically all we have to offer on the mode of infection at the present time.

THE PROGNOSIS OF HYPERTENSION*

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Physiologists constantly remind us that hypertension is a symptom and not a disease. This precept is salutary and we are glad to hear it repeated again and again. But when the physiologists imply, as they commonly do, that clinicians entirely ignore this patent fact, then I consider the reproach unmerited. It is true that medical literature is intensely preoccupied with hypertension, and since the cause and significance of the symptom are obscure, speculation is invited to wander unrestrained. Therefore, many of the innumerable publications on blood pressure are the elaboration of personal views, and only a small number deal trenchantly with observation and experiment. Still, this feverish activity is stimulated by a lively interest in the subject and a keen desire to arrive at some helpful conclusion. No doubt, this zeal, and the convenience of speaking of hypertension as though it were a disease, give an appearance that somewhat excuses the reproach of the physiologists.

The physician, though aware that hypertension is a symptom and not a disease, still is driven by necessity to deal with it in a practical way. He does not know how it comes about nor what subtle biologic alterations it portrays, but he knows full well and daily sees the varied train of symptoms that follow in its path. These symptoms not only demand immediate recognition but also call aloud for aid. The physician is conscious of his ignorance, but he cannot sit idly by and wait for full knowledge to direct his action. No doubt many of his gestures are useless, and some may be harmful, but the patient observation and collation of simple facts gradually accumulates a mass of useful information. It is information about the origin and cause of a symptom, and about various manifestations that group themselves more or less consistently about the symptom, but nevertheless it serves a helpful purpose while the physician impatiently awaits a more satisfactory solution of his pressing difficulties.

All practitioners have certain definite impressions about what happens to patients with hypertension. We see, on the one hand, those who live on without any disturbing symptoms for a decade or two, and then die of some unrelated cause, or succumb, at a ripe old age, to apoplexy or heart failure; and, on the other

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hand, those in whom high blood pressure is ushered in with annoying symptoms, which gradually and ominously increase, and after a brief but stormy siege lead on to death. Between the extremes of these benign and malign courses there is every variation. When we observe a patient with hypertension, we should like to know how his disease will progress. This knowledge will not elucidate the cause of high blood pressure nor enable us better to treat it, but it will help us to answer some of the many important extramedical questions which are constantly put to physicians.

The factors that influence the prognosis of hypertension are not at all clearly defined, but vaguely we appreciate many of them. The influence of heredity becomes more and more important, as do certain constitutional factors; for instance, obesity. Physicians have long known that nephritis reduces the prospect for many years of life, and they are accustomed to separate hypertension with nephritis from hypertension without nephritis. The height of the blood pressure, especially of the diastolic pressure, is another factor of value, and also the age of the patient at which high blood pressure begins. These and other facts are known, but when we attempt to put them in the form of a precise statement, then we find that the necessary data are not available.

In a cursory review of the literature I find only scattered statistics of what actually becomes of hypertensives. There are numerous reports of groups of patients, some demonstrating that many hypertensives live ten, fifteen, or twenty years, others that the disease may run a rapid course, still others that those with nephritis have a shorter average life than those without, and so on. However, the number of cases is usually small, and in most of them the final outcome of the illness is undetermined. Life-insurance statistics are by far the most valuable for those special aspects of the subject which they cover. Of clinical studies, the report of Janeway published in 1913 is the best I have found.

In order to get an appropriate background for a discussion of the prognosis of hypertension, I examined my office records and selected for study all those patients whose systolic pressure was 150 mm. Hg. or over. These patients were nearly all adults, only a small number being under twenty years of age. Women and men were about equally divided. Some were poor, some wealthy, but most came from the moderately well-to-do class. The medical complaints were numerous and varied, corresponding I presume, with those of the average clientele of medical practice. The majority of the patients came for diagnosis, and after the diagnostic study was completed most of them were never seen again. However, information about the subsequent course of events has been sought regularly by correspondence, so that in a large number the ultimate fate of the patient is known.

I cannot give entirely satisfactory reasons for having chosen 150 mm. Hg. as the dividing point. The mark that separates the normal, or let us better say the average, from the abnormal is no such definite number. The average itself is variable, depending upon age, sex, build, habits, climate, and many other less well-known factors, and, having settled upon an average, a wide range above and below must be allowed before we can speak of abnormal. Discarding all these factors, I selected 150 mm. Hg., not because it is an absolute division, but because a pressure of 150 mm. Hg. or over is usually, but not always, abnormal. The blood-pressure reading, in most instances, is a single observation made with the patient lying down after having rested in a chair for about half an hour while the medical history was being taken. The element of excitement may occasionally enter to vitiate the result, but it is my impression that it does so too seldom to be a factor of importance in the analysis of a large group of patients.

In a consecutive series of 8,000 patients coming for examination, 778 had a blood pressure of 150 mm. Hg. or over, an incidence of over 9 per cent. In order to give this proportion definite value, it would be necessary to ascertain the incidence of hypertension in each decade, a task which I have not had the courage to attack. I may say that only a small number of these patients are under 20 years of age, and I believe that there are about as many below 40 as above it. Hypertension is exceptional below 40 years of age; so one may justly say that in this particular group of patients about 15 per cent of those over the age of 40 years have a blood pressure of 150 mm. Hg. or over. This figure may not be taken as the incidence of hypertension during that period of life, but as the incidence in a special group of persons presenting themselves to a physician for examination and therefore ill in one way or another.

It is interesting to contrast this figure with the incidence of hypertension in a group of presumably healthy adults. Among 146,922 persons examined for life insurance over a period of six years, there were 2,568 instances of hypertension (systolic pressure 15 mm. Hg. above the average or diastolic 10 mm. Hg. above)—an incidence of 1.74 per cent. Distributed accord-

ing to age, 76 per cent of the examinations and 36 per cent of the hypertensives fall within the period previous to age 40; 24 per cent of the examinations and 64 per cent of the hypertensives occur after the age of 40. The incidence of hypertension is therefore 0.08 per cent before 40 and 4.6 per cent after 40.

Of the 778 patients with a blood pressure of 150 mm. Hg. or over, 105 were discarded as unsuitable for the present study. In all of these patients the systolic blood pressure was 150 mm. Hg., or a little over, the diastolic pressure was below 100 mm. Hg., and the slight elevation of systolic pressure was an incidental and unimportant factor in the patient's condition. For instance, many were over 60 years of age, with no gross abnormality other than the slight elevation of blood pressure. Others had serious illness to which the slight hypertension bore no relation. Of the remaining 673 cases, we had satisfactory information of subsequent developments in 314 cases, and these form the substance of this report.

Table I

Death Rate in a Group of 314 Hypertensives Calculated from the Date of Discovery of Hypertension

	End of 2 Years	End of 5 Years	End of 10 Years
Living	281	145	30
Dead	33 (10.5%)	77 (30%)	107 (78%)

In a group of 314 hypertensives observed over a period of two years or longer, 10 per cent died during the first two years, 30 per cent during the first five years, and 78 per cent during the first ten years. (See table I.) It is necessary to comment briefly upon these figures and to point out that they stand as relative and not as absolute values. An effort was made in each instance to fix the date of onset of the hypertension. This could be done only in the vaguest sort of way. Occasionally the date of onset can be fixed within a six- or twelve-month period. For instance, a patient took life insurance in 1918 and at that time the blood pressure was normal. A year later it was found to be elevated, and has remained high since then. But such a fortunate coincidence seldom occurs, and the search for the time of onset is usually unrewarded. Another patient comes complaining of slight symptoms of myocardial insufficiency. The blood pressure is elevated but there has been no previous examination. We know full well that the pressure has been high for many years, but there is no way to tell how many, so the onset of hypertension must be dated from the time of the examination. If he dies a year later, then he dies within two years of the discovery of the hypertension. Still another, feeling perfectly well, is examined for life insurance and is surprised to discover that his pressure is high. He remains well for ten years before symptoms of heart weakness come on. If he dies a year later, he is credited with having lived over ten years after the discovery of hypertension. In a few words, these figures span the period between the "discovery" of hypertension and the last report on the condition of the patient. Since, in most instances, there is no way accurately to decide the date of onset of hypertension, these figures must necessarily lack precision.

Table II

Death Rate in a Group of 299 Hypertensives Calculated from the Date of Examination

	End of 2 Years	End of 5 Years	End of 10 Years
Living	256	119	14
Dead	43 (14%)	93 (44%)	118 (90%)

In studying the relation of various factors to the duration of life of hypertensives, it will be necessary to establish a mortality rate for the whole group. Since the effect of these factors must be estimated from the time of observation, this mortality rate must express the expectation of life in the group from the date of examination and not from the date when the high blood pressure was first discovered. Recast in this form the figures read as follows: In a group of 299 hypertensives of all ages observed for a period of two years or longer, 14 per cent died during the first two years, 44 per cent during the first five years, and 90 per cent during the first ten years. (See table II.)

As stated above, the outcome of the patient's illness was reported usually by letter, and most of the reports were by laymen, so that in a number of the cases the exact cause of death cannot be given. The reports sufficiently clear to identify the cause of death indicate that 24 per cent died of causes unrelated to the hypertension, 30 per cent died of heart failure, 27 per cent died of cerebral vascular accidents, and 19 per cent died of uremia. (See table III.) Of the pa-

Table III

Causes of Death in 96 Patients With Hypertension

Heart failure	29	30%
Apoplexy	26	27%
Uremia	18	19%
Unrelated causes	23	24%

tients dying directly as a result of hypertension, 40 per cent died of heart failure, 35 per cent died of cerebral vascular accidents, and 25 per cent died of uremia. These figures correspond surprisingly well with life-insurance reports. From 1907 to 1920, 4,165 cases of hypertension were discovered. In 1921, 507 of these patients had died, the cause of death being shown in table IV. Janeway's figures also are similar.

I am a little surprised at these figures. Had I been asked before this analysis was made, I should have replied that I thought about 60 per cent died of heart failure, 30 per cent of apoplexy, and 10 per cent of uremia. That 25 per cent died of uremia is unexpected, and the result deserves a few comments.

The relation of high blood pressure to nephritis has long attracted attention, and the discussion of this relation has occupied a prominent place in the literature of hypertension. It is well known that certain types of nephritis, especially the interstitial type with contraction, are accompanied by a high blood pressure commonly characterized by a high diastolic as well as a high systolic pressure. Indeed, clinically, especially from the standpoint of prognosis, it is important to distinguish hypertension secondary to nephritis from hypertension due to obscure causes, but certainly not to nephritis. To designate the latter group, various terms, but particularly essential hypertension and hyperpiesia, have been employed. Unless life be terminated by some intervening cause, nearly all nephritics die of uremia, whereas patients with essential hypertension practically never die of uremia, but of heart failure or vascular cerebral accidents.

It is usually, but not always, possible to distinguish between nephritic and essential hypertension by a careful consideration of the medical history, the physical examination, and the results of renal-function tests. At the terminal stage of the disease, the distinction may be impossible and occasionally it cannot be made at earlier periods. For instance, there is a type of hypertension, commonly called malignant, that comes on in young adults, which is characterized by severe headache and a very high level of both the systolic and diastolic pressure. At first this is the only abnormality discovered; the urine is free from albumin and casts, and the kidneys show an unimpaired function. However, shortly after, albumin is found in the urine, the phthalein output falls, retinal changes appear, the specific gravity of the urine becomes fixed at a low level, nitrogen is retained, and death from uremia soon follows. The disease usually runs its course in from ten to eighteen months. At first it has the appearance of an essential hypertension, but the evidence of nephritis soon shows itself and then dominates the picture to the end.

Table IV

Causes of Death in Patients With Hypertension

	Life Insurance (507 cases)	Janeway (178 cases)	Present Group (96 cases)
Heart disease	30%	43%	30%
Apoplexy	21%	16%	27%
Nephritis	21%	26%	19%
Unrelated	28%	15%	24%

On the other hand, hypertension that almost surely begins with nephritis may later carry the mask of an essential hypertension. An example comes clearly to mind. This past winter I saw a patient 65 years of age at the request of an ophthalmologist who found serious impairment of vision due to arteriosclerotic changes in the retinal arteries. The blood pressure was systolic 260 mm. Hg., and diastolic 140 mm. Hg. There was moderately marked generalized arteriosclerosis, the urine contained but a trace of albumin and a few casts, the blood urea was normal, and the phthalein output for two hours was 44 per cent. Here was a picture of essential hypertension with marked disease of the retinal vessels, and I should so have labeled it had I not seen the patient years before. In 1911, when I first examined him, he gave a clear history of nephritis that had begun three years before. I examined him at intervals over a period of four years and during this time the urine contained albumin and casts, the phthalein output was regularly in the neighborhood of 45

Table V

Relation of Death Rate of Hypertensives to Renal Changes

	Dead at End of 2 Years	Ratio of Actual to Expected Deaths	Dead at End of 5 Years	Ratio	Dead at End of 10 Years	Ratio
Class 1 (83 cases): Urine normal	8%	57%	32%	73%	85%	94%
Class 2 (159 cases): Trace of albumin and casts	13%	93%	40%	91%	83%	92%
Class 3 (26 cases): Much albumin and many casts	23%	165%	55%	125%	100%	111%
Class 4 (15 cases): Markedly impaired renal function	66%	471%	100%	227%	.....	.....
Death rate for whole group	14%	.....	44%	.....	90%	.....

per cent, and the systolic blood pressure varied from 122 to 146 mm. Hg., the diastolic from 80 to 85 mm. Hg. From 1915 to 1924 I did not see the patient. At a visit made in April, 1924, the blood pressure was systolic 178 mm. Hg., the diastolic 96 mm. Hg.

But, as previously stated, these exceptions are rare. To return to the eighteen cases reported to have died of uremia: Since the cause of death is often the statement of relatives and is usually returned as Bright's disease, there is a possibility of error in the designation. However, of these eighteen cases, nine at the time of examination showed marked renal impairment, so that only nine of the deaths ascribed to uremia occurred in the group of essential hypertension. I believe that in some of these the diagnosis of Bright's disease is unwarranted.

It is interesting to pursue a little further, and in a somewhat different way, the relation of renal changes to prognosis in hypertension. In respect to renal changes, the whole group of hypertensives may be divided into four classes: (1) With normal urine. (2) With a trace of albumin, a few casts, or both, but with no evidence of impaired renal function. (3) With much albumin and many casts in the urine or a phthalein output of 30 per cent or under. (4) With more marked impairment of renal function, fixation of specific gravity at a low level, or a phthalein output below 20 per cent. The mortality in these four classes is shown in table V. It is thus apparent that, irrespective of what part renal change may play in the diagnosis of hypertension, prognosis becomes increasingly grave in proportion to the degree of abnormal urinary findings.

It is reasonable to assume that, other things being equal, a high blood pressure will have a worse prognosis than a lower pressure. Life-insurance statistics show this conclusively. For instance, Rogers and Hunter report upon 2,838 observations as follows:

Systolic Pressure Above Average for Age	Number of Cases	Actual Deaths	Expected Deaths	Ratio of Actual to Expected Deaths
+10 to +25, Average +20	1,307	50	34.2	146%
+26 to +35, Average +30	1,190	70	37.3	188%
+36 to +50	341	29	11.7	248%

These pressures are relatively little above normal, for in our patients we deal usually with pressures of from 50 to 100 mm. Hg. above the average. However, they demonstrate conclusively that with each increase in the pressure level the ratio of actual to expected deaths becomes larger. A similar table is prepared by Fisher which may be condensed as follows:

Systolic Pressure Above Average for Age	Ratio of Actual to Expected Deaths
10-14	136
15-24	184
25-34	204
35-49	248
50+	415

In respect to the pressure, I have divided my cases into four classes: (1) High systolic pressure (200 mm. or over) and high diastolic pressure (110 mm. or over). (2) High systolic pressure with low diastolic pressure. (3) Low systolic pressure with high diastolic pressure. (4) Low systolic pressure with low diastolic pressure. Table VI gives the death rate in these four classes. If we select separately the systolic and diastolic pressure, the results are as follows:

Systolic Pressure Alone

	Cases	Dead at end of 2 Years	5 Years	10 Years
High systolic	99	33%	66%	98%
Low systolic	202	12%	33%	77%

Diastolic Pressure Alone

	Cases	Dead at end of 2 Years	5 Years	10 Years
High diastolic	103	36%	66%	100%
Low diastolic	198	10%	32%	80%

These figures demonstrate, just as do the insurance statistics, a close relation between the height of the blood pressure and the mortality rate.

A few years ago O'Hare and Walker published some interesting observations upon the relation of changes in the retinal arteries to arteriosclerosis and to hypertension. Of fifty patients with generalized sclerosis of the peripheral vessels, but without hypertension, only two had moderate sclerosis of the retinal vessels; whereas, of fifty patients with a systolic blood pressure of from 160 to 266 mg. Hg., there was a moderate or marked sclerosis of the retinal vessels in all. During the past five years, more and more attention has been paid to eye-ground changes in hypertension. It is surprising with what consistent accuracy ophthalmologists are able to diagnose hypertension from an inspection of the fundus of the eye. Nay, more than this: some of them even dare to guess the

Table VI

Relation of Death Rate of Hypertensives to Height of Blood Pressure

	Dead at End of 2 Years	Ratio of Actual to Expected Deaths	Dead at End of 5 Years	Ratio	Dead at End of 10 Years	Ratio
Class 1 (75 cases):						
Sys. pr. 200 or over	.....	.....	.....	.....	.....	.....
Dias. pr. 110 or over	38%	271%	70%	160%	100%	111%
Class 2 (24 cases):						
Sys. pr. 200 or over	.....	.....	.....	.....	.....	.....
Dias. pr. under 110	17%	121%	50%	114%	91%	100%
Class 3 (28 cases):						
Sys. pr. under 200	.....	.....	.....	.....	.....	.....
Dias. pr. 110 or over	28%	200%	56%	127%	100%	111%
Class 4 (174 cases):						
Sys. pr. under 200	.....	.....	.....	.....	.....	.....
Dias pr. under 110	10%	71%	30%	68%	77%	84%
Death rate for whole group	14%	.....	44%	.....	90%	.....

blood pressure by such an inspection, and it must be admitted that they do it as successfully as the clinician does by feeling the pulse. It would seem, therefore, that a study of the retina would give a valuable hint as to the progress and outcome of the illness. However, I was not prepared to find the remarkable correlation between the two that my figures indicate. For some years past it has been my practice to look at the eye grounds of all patients, but in earlier years this routine was not followed. I have notes on the condition of the ocular fundus in 155 patients with hypertension, followed for two years or longer, and an analysis of the records yields the results gathered in table VII.

If we compare patients showing no or only slight retinal changes with those showing moderate and extreme changes we get the following figures:

	Dead at End of 2 Years	Ratio	Dead at End of 5 Years	Ratio	Dead at End of 10 Years	Ratio
No or only slight retinal changes	07%	50%	20%	45%	60%	66%
Moderate and severe changes	33%	236%	62%	141%	93%	103%
Whole group	14%	.....	44%	.....	90%	.....

As previously pointed out, about one third of all patients with hypertension die of heart failure. The heart failure may be sudden, due to coronary occlusion, or more gradual, due to weakening of the heart muscle.

Of the 29 cases in the group dying of heart disease, five had coronary occlusion and four more died suddenly and may have had it. Three of the cases of coronary occlusion I saw in the final illness, and the other two are reported to have died in an attack of angina pectoris. This, it seems to me, is an unusually large proportion, for 17 per cent of the cardiac deaths were certainly due to coronary occlusion, and a further 14 per cent were probably due to it, in all 31 per cent. In Janeway's series, 77 patients died of cardiac failure and 10 of these, or 13 per cent, died of angina. I cannot explain why the number of coronary deaths in my series is so much larger, but I am inclined to regard it as an accidental association, for I believe the proportion to be in excess of what is usually found.

By far the larger number of cardiac deaths in hypertension is due to gradual myocardial failure, and conversely, after forty years of age by far the greater number of deaths from myocardial failure are secondary to hypertension. The former fact is generally recognized, but the second I believe is not sufficiently appreciated. Myocardial insufficiency is due to four general causes: (1) valvular heart disease,

Table VII

Relation of Death Rate of Hypertensives to Eye-Ground Changes

	Dead at End of 2 Years	Ratio of Actual to Expected Deaths	Dead at End of 5 Years	Ratio	Dead at End of 10 Years	Ratio
Class 1 (29 cases):						
No changes	7%	50%	26%	60%	37%	41%
Class 2 (68 cases):						
Slight changes	7%	50%	15%	34%	80%	88%
Class 3 (34 cases):						
Moderate changes	12%	90%	41%	93%	94%	105%
Class 4 (24 cases):						
Extreme changes	62%	443%	90%	205%	100%	111%
Death rate for whole group	14%	.....	44%	.....	90%	.....

(2) hypertension in the systemic circulation, (3) hypertension in the pulmonary circulation, (4) degenerative disease of the heart muscle. The first three causes are mechanical; that is, they increase the work of the heart muscle, which then gradually undergoes characteristic changes, and finally, for reasons as yet unknown, fails to meet the excessive demands made upon it. In the fourth group, the mechanics of the circulation is unaltered and the heart fails, not from an added tax put upon it, but from weakness of the muscle which becomes unable to carry on satisfactorily an unhampered circulation. This

heart-muscle weakness is due either to intoxication, usually the result of infection, or to nutritive changes, the result either of a faulty quality of the blood, as in pernicious anemia, or an insufficient supply of blood, as in disease of the coronary arteries. The mechanical factor and degenerative changes in the heart muscle usually proceed hand in hand, but degenerative changes alone seldom lead to heart failure.

In the clinic, heart failure is usually found secondary to valvular disease or to hypertension, valvular disease predominating before the fortieth year, hypertension thereafter. Increased resistance in the pulmonary circulation, though interesting and important as a cause of heart failure, is uncommon and relatively insignificant when compared with hypertension in the systemic circulation. Fahr has estimated that if we exclude valvular disease, at least 75 per cent of heart failures are secondary to hypertension, and probably this estimate does not overstate the true proportion. As the average life of man becomes prolonged, the number of deaths from the degenerative diseases increases. As might well be anticipated, the death rate from heart disease mounts alarmingly, and since most of these deaths are secondary to hypertension, the importance of the problem needs no emphasis.

Since from 30 to 40 per cent of patients with hypertension die of heart failure, the condition of the heart is the most important single factor in prognosis. The capacity of the heart to meet the demand of increased work and to sustain for a long time an adequate circulation at this higher level depends upon many factors. Under parallel conditions some hearts are able to work on for a longer time than others. Apparently the innate capacity of hearts varies, just as it does for other tissues. Upon what these constitutional factors depend we do not know, nor do we know the marks by which these variations may be detected. We become aware that they exist at all only as we watch the relative behavior of different hearts under long-continued strain. It is assumed, also, that infection and other forms of intoxication damage the heart muscle and undermine its efficient response. It is more reasonable still to conclude that disease of the coronary arteries, by interfering with the nutrition of the heart muscle, may have an important effect upon the action of the heart. We are well informed about the results of occlusion of relatively large branches of the coronary arteries and also about changes gradually induced by the occlusion of many small arteries. However, we know of no method with the aid of which we may discover these alterations at an early stage or appraise their influence upon cardiac capacity.

Our study has already demonstrated that the death rate in hypertension is accelerated in proportion to the height of the blood pressure. This fact has long been recognized, and there has been much discussion in medical literature of the "heart load." This is expressed in a number of formulas which take into account chiefly the systolic and diastolic pressures and the difference between the two. In estimating the work done by the heart, the diastolic pressure is just as important as the systolic pressure, perhaps even more so, although it is an elevation of both pressures that leads to an increase of 100 per cent and over of work above the normal average. Other things being equal, life expectancy will parallel the height of the blood pressure, and this, statistics show, it actually does.

However, in any individual instance we should like to gauge, if we are able to do so, the functional capacity of the heart. Let us assume that at the moment of observation the heart is meeting in a competent way the increased demand made upon it. How can we estimate the cardiac reserve or the factor of safety which will allow us to predict how long this efficient response may be expected to continue? This estimate is based on the ability of the heart to rise successfully to still further demands put upon it and on the condition of the heart revealed by a careful examination.

The very simplest test of cardiac function is the daily experience of the patient. If the patient can exercise freely without respiratory or cardiac distress, we conclude that the heart has a large measure of reserve; if usual exercise causes breathlessness, then it has but little; if slight exercise brings on palpitation and panting, then it has none; if there is shortness of breath and edema at rest, failure has begun. These simple tests are put in a more precise form by studying carefully the patient's response to definite grades of exertion, the amount of work being accurately measured. Frost has recently devised a plan for testing cardiac function which he thinks gives valuable results. This test consists in estimating the circulatory response to the strain imposed by changes in intrathoracic pressure. The systolic and diastolic pressures and the pulse rate and rhythm are noted at rest, on full inspiration, on forced expiration, and at definite levels of positive and negative pressure.

In addition to the information yielded by these estimates of the range of cardiac adaptability to strain, we obtain valuable data from a minute examination of the heart. Certain abnormal physical signs are caused by the physio-

logic adjustment of the heart to the new circulatory demands occasioned by the hypertension. These must be carefully distinguished from those that indicate a beginning weakness of the heart in coping with these extra demands. Heart muscle hypertrophies in response to increased work, and in hypertension, hypertrophy of the left ventricle occurs as a normal physiologic response. This hypertrophy usually reveals itself by a forcible apex beat and loud heart sounds. It does not produce enlargement of the heart. The wall of the left ventricle may become three times its normal thickness without adding more than a centimeter to the lateral diameter, and our methods of measuring the size of the heart are not sufficiently accurate to detect such small variations. Thus, frequently, in patients who for years have had a high blood pressure we find the size of the heart within the limits of normal. If they die of some intercurrent disease, autopsy discloses only a little enlargement of the heart but a great thickening of the walls of the left ventricle and a much increased total muscle mass. Appreciable enlargement of the heart occurs only when dilatation begins, and enlargement of the heart is, therefore, a sign of weakening of the heart muscle.

As the heart hypertrophies, the valve sounds all become more forcible, but the second aortic tone is especially altered. Due to the increased pressure in the aorta, the valves are snapped into place with a greatly accentuated sound. This accentuation of the second aortic sound is a normal phenomenon of increased arterial pressure and not an evidence of disease. Frequently, the sound, in addition to being accentuated, acquires a peculiar ringing, metallic, bell-like quality. This quality is not due directly to the high blood pressure but to changes in the aorta which alter the sound-conveying properties of the chamber. This metallic quality of the second aortic sound is frequently absent in hypertension and often encountered in other conditions unassociated with hypertension.

A systolic murmur at the apex is so commonly heard that one wonders whether it should really be classed as an abnormality. A systolic murmur of rougher quality is heard almost equally often at the aortic area. The one denotes slight relaxation of the mitral ring, the other slight dilatation of the aorta. As the left ventricle dilates, the mitral systolic murmur becomes louder, but the degree of dilation cannot be correlated with the intensity of the murmur.

Changes in rhythm do not necessarily indicate weakness or threatened weakness of the heart. I confess to great difficulty in putting the proper value upon their occurrence with hypertension. Extrasystoles are encountered so commonly and under so many circumstances, with and without hypertension, that they are almost negligible in this relation. Flutter and fibrillation seldom occur until other signs of beginning failure are plainly marked. Heart block and paroxysmal tachycardia are not observed often enough to give them great importance. An alternating pulse is of somewhat greater value, for it does bespeak a failing heart; however, it never comes as an early warning, but usually only to confirm an already ominous impression. Perhaps the same may be said of that peculiar alteration of the quality and emphasis of heart sounds which is called gallop rhythm. Still, it is my experience that this has far more value in indicating a weakening heart than any of the other disturbances of rhythm. It is unfailing in its implication, and frequently occurs temporarily years before serious heart failure sets in.

Table VIII

Relation of Death Rate of Hypertensives to Abnormal Cardiac Signs

	Dead at End of 2 Years	Ratio of Actual to Expected Deaths	Dead at End of 5 Years	Ratio	Dead at End of 10 Years	Ratio
Class 1 (100 cases): Heart normal	7%	50%	33%	75%	70%	78%
Class 2 (110 cases): Slight changes ...	9%	64%	30%	68%	90%	100%
Class 3 (85 cases): More marked changes	30%	214%	66%	150%	96%	107%
Death rate for whole group	14%	.....	44%	.....	90%	.....

To study statistically the influence of cardiac abnormality upon the death rate in hypertension, we may divide our cases into three classes: (1) Patients with normal hearts. (2) Those who have doubtful or slight enlargement of the heart, those who have a systolic murmur, and those with extrasystolic irregularity. (3) Those with definite enlargement of the heart, those with gallop rhythm or with fibrillation, and those with obvious manifestations of myocardial insufficiency; namely, dyspnea, cyanosis, pulmonary congestion, edema of ankles, etc. Table VIII gives the results.

Janeway compares the presence of cardiac hypertrophy alone with the duration of life in hypertension, and his figures show a remarkable correlation between the two. At the end of a variable period of observation for the different patients he finds: of those showing no cardiac

hypertrophy, 89 living, 8 dead, mortality 8%; of those showing slight cardiac hypertrophy, 103 living, 45 dead, mortality 30%; of those showing moderate cardiac hypertrophy, 83 living, 96 dead, mortality 53%; of those showing marked cardiac hypertrophy, 19 living, 44 dead, mortality 70%.

Summary

In studying a patient with hypertension, the height of the blood pressure, the condition of the heart, the degree of kidney involvement, and the condition of the retinal arteries all have an important bearing upon prognosis. If the systolic pressure is 200 mm. Hg. or lower and the diastolic pressure below 110 mm. Hg., the heart not enlarged, the urine free from albumin and casts, and kidney function unimpaired, and the eye grounds within the range of normal, then the prospect for many years of life is excellent. Any deviation from these favorable conditions clouds the outlook.

Repeated examinations are particularly desirable, because in hypertension the state of affairs changes sometimes slowly, sometimes more quickly. If from year to year there is but little change, the prognosis is better than when the advance is more rapid. Hypertension beginning with a low systolic and a low diastolic pressure may gradually rise to a higher level with a high systolic and a high diastolic pressure, and then, as the heart fails, sink again to a lower systolic level, the diastolic pressure remaining high. These alterations are often mirrored in the eye grounds, or in a gradually declining renal function, or in enlargement of the heart.

At the age when hypertension is prevalent, life at best is precarious and high blood pressure adds a number of additional hazards. It is impossible to tell in any individual case what the outcome will be, but by carefully weighing the various factors concerned, a reasonably accurate prognosis may be reached.

I wish to express my indebtedness to Miss M. S. Hamman for a painstaking analysis of the records.

In Pennsylvania there are now practicing medicine illegally about 700 chiropractors who, after an eighteen-months' schooling, are setting themselves up as full-fledged doctors and advertising for patronage. These chiropractors have deliberately refused to comply with the requirements of the law in properly preparing themselves to be safely licensed, and now are attempting to secure protection by having a law passed that will deliver them from the penalties of the present act, and grant them the full rights now accorded to physicians who are required by the State to go to school seven years after graduation from high school. By full rights is meant legal approval of their desire to treat acute and contagious diseases, to sign death certificates, and to be permitted to treat their patients in hospitals that receive financial aid from the State.—*Pittsburgh Medical Bulletin.*

Symposium On the Poor Surgical Risk*

CONTRIBUTIONS OF THE LABORATORY IN THE DIAGNOSIS AND TREATMENT OF THE POOR SURGICAL RISK

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The laboratory can be of considerable aid to the surgeon in determining the operative risk or pointing out the time when the risk is reduced within safe limits. It does not require an elaborately equipped laboratory in order to carry out the necessary investigations. Any hospital or private laboratory with standard equipment should be in a position to supply to the surgeon the necessary data. It takes a certain amount of special training in clinical pathology and chemistry for performing these tests. Fortunately, at the present time there is a rather plentiful supply of well-trained technicians who, under proper supervision, can take care of the purely technical phases of the work. The evaluation of laboratory data and their correlation with clinical findings will rest on the clinician, or better still, on consultations between the surgeon and pathologist. There are many hospitals with well-equipped and well-manned laboratories which receive requests for examinations in a routine, perfunctory way. In order that the patients may benefit by the advances in laboratory medicine, either the surgeon should have a more intelligent understanding of laboratory procedures and the meaning of results, or there should be closer coöperation between the surgeon and pathologist.

A complete blood count, including a differential count, should be made in every case. It will disclose not only the presence and degree of anemia or other diseases of the blood, but will also give an index of the severity of infection, if present. A leukocyte count without a differential count may be very misleading. A case of acute gall-bladder infection may show a leukocyte count of 9,000. This information would not help the surgeon very much, but if he knew that this patient had 85 per cent of polymorphonuclears, he would be aware that the patient had not only a severe infection but also that his body resistance was low.

Walker's index of body resistance[1] or the lymphocytic index of Jones and Crocker[2] are of considerable help in the interpretation of leukocyte and differential counts. Walker assumes that the highest possible normal leukocyte count

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is 10,000, and that 70 per cent is the highest possible normal proportion of polymorphonuclears. For each rise of 1,000 in the leukocyte count, there should be a corresponding rise of 1 per cent in the polymorphonuclear count. Twenty thousand leukocytes with 80 per cent of polymorphonuclears would give a normal, or zero, index of body resistance. A leukocyte count of 20,000, with 75 per cent of polymorphonuclears would give an index of plus 5, whereas a count of 9,000 with 85 per cent of polymorphonuclears would give an index of minus 16.

Whenever possible, three specimens of urine should be examined and particular attention paid to the specific gravity when there is no albumin or when albumin is present only in small amounts. Loss of ability to concentrate urine is sometimes the only definite indication of serious kidney damage. Mosenthal's[3] test is of value in such cases. The amount of urine passed in twenty-four hours should be noted.

Whenever there is a suggestion of kidney insufficiency clinically or from the urinalysis, the phenolsulphonephthalein kidney-function test[4] should be done, and the blood urea nitrogen[5] determined.

Fractional gastric analysis[6] is indispensable in diseases of the stomach and duodenum. This examination will disclose the degree of retention of food, regurgitation of duodenal contents, efficiency of gastric digestion, character of gastric juice, hemorrhages, lactic fermentation, infection, etc.

Examination of feces often will give valuable information in diseases of the stomach, biliary system, pancreas, and the intestinal tract in general. The Wassermann test is of importance even if it has no direct bearing on a disease of the upper abdomen.

Blood-sugar determinations[7] should never be omitted in cases of suspected disease of the pancreas. When the involvement is extensive there will be hyperglycemia or diminished sugar tolerance and glycosuria.

The discovery of insulin has enabled the surgeon to handle diabetics with comparative safety, provided the patients have been carefully studied and received the proper amounts of carbohydrates and insulin. By repeated determinations of blood sugar and plasma CO_2 combining power, deaths from diabetic coma have been greatly reduced in such cases after operations.

When the history or physical examination suggest the possibility of purpura hemorrhagica or hemophilia, the platelets should be counted and coagulation and bleeding time determined. In purpura hemorrhagica there is a marked decrease in the platelet count, a much prolonged bleeding time, but the coagulation time remains normal. In hemophilia there is great prolongation of the coagulation time, but the bleeding time and platelet count remain normal.

Blood cultures should be taken whenever there is a suggestion of the possibility of blood-stream infection.

The van den Bergh test[8] will, as a rule, differentiate between obstructive and hemolytic jaundice or indicate the presence of both conditions. Quantitative estimation of bilirubin is valuable, as it shows a rise or decrease in bilirubin, and also enables one to detect cases of latent jaundice. The normal concentration of bilirubin in the blood varies from 0.2 to 0.5 units (0.1 to 0.25 mg. per 100 c.c.). The zone of latent jaundice is between 0.5 and 2 units (0.25 to 1 mg. per 100 c.c.). For quantitative estimation of bilirubin in the blood the method of Thannhauser and Anderson[9] is more simple. The renal threshold for bilirubin lies between 3.5 and 4.0 units in serum (1.75 to 2 mg. per 100 c.c. of blood). The icterus index of Meulengracht[10] is very readily determined by comparing with a standard of potassium bichromate. The normal icterus index ranges between 4 and 6; the zone of latent jaundice lies between 6 and 15. Carotin is the only pigment which interferes with the above tests. It is found in the blood after ingestion of carrots.

Rosenthal,[11] Piersol and Bockus,[12] and others have shown that more or less extensive liver damage can be demonstrated by the phenoltetrachlorphthalein test. Unfortunately, this drug produces thrombosis of veins and various toxic reactions. In cases of mild liver damage usually there is no abnormal retention of the dye. Rosenthal's bromsulphthalein test[13] is to be preferred. This drug is less toxic, and does not produce thrombosis.

In jaundice cases there is a prolonged coagulation time[14] of the blood, and consequently danger of postoperative capillary oozing. The coagulation time varies with the concentration of bilirubin in blood: the higher the bilirubin, the longer the coagulation time. Cantarow, Dodek, and Gordon[15] have shown that in jaundice cases there is no actual deficiency of blood calcium, but that the calcium apparently has become immobilized by bile pigment and in the tissues. They suggest the administration of parathyroid extract in order to mobilize the calcium and so reduce the coagulation time. Frequent determinations of coagulation and bleeding time in such cases are of the greatest importance. In hemolytic jaundice (congenital familial icterus) there is lowered

resistance to hypotonic salt solution.

Great advances have been made by physiologists and biochemists in the study of the acid-base equilibrium of the blood. The intelligent application of their discoveries to bedside problems undoubtedly constitutes one of the most important advances in the handling of surgical cases. Clinicians, as a rule, are aware of the dangers of acidosis, and are usually prepared to institute measures directed toward prevention or treatment. Unfortunately, the pendulum, until recently, has swung too far. Many cases are incorrectly diagnosed as acidosis, and quite often the condition is exactly the opposite, namely, alkalosis. One can readily see how the administration of the wrong treatment may lead to disastrous results. In well-established cases of acidosis or alkalosis the differentiation can readily be made at the bedside.[16] But that may be too late, especially in alkalosis. It is of the greatest importance to recognize these conditions before stupor or tetany have developed and to institute preventive measures. The laboratory can aid the surgeon in recognizing impending acidosis or alkalosis and help him in controlling the treatment by repeated examinations.

In acidosis there is diminished plasma CO_2[17] combining power and shifting of plasma PH[18]

Disturbances of Acid-Base Equilibrium of Blood

After Van Slyke

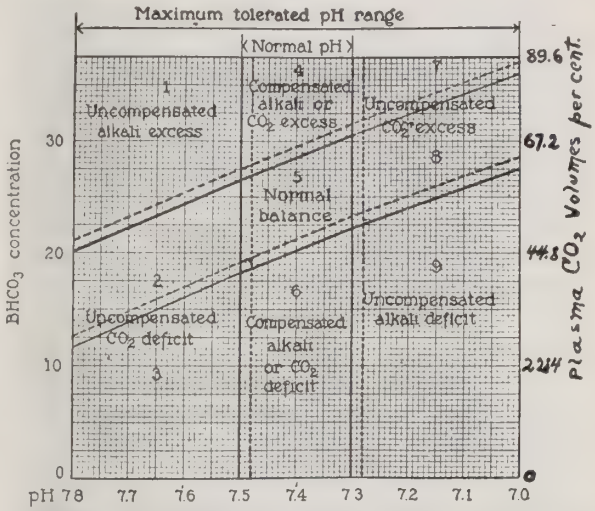
Area	*Acid-Base Balance*	*Condition*	*Associated Symptom*	*Compensatory Mechanism*
1. Uncompensated alkali excess.	Alkali increased without proportionate rise in CO_2, hence PH increased.	Overdosage of sod. bicarbonate. Excessive vomiting (pyloric obstruction), gastric lavage, or prolonged use of Jutte tube causing loss of HCl. X-ray treatment.	If marked, tetany.	Diminished respiration to hold back CO_2, diuresis, and increased sod. bicarbonate excretion.
2-3. Uncompensated CO_2 deficit.	CO_2 decreased without proportionate fall in alkali; hence PH increased.	Hyperpnea, voluntary or induced (e.g. oxygen want at high altitudes). Fever. Hot bath.	If marked, tetany.	Retention of acid metabolites. Excretion of sod. bicarbonate.
4. Compensated alkali or CO_2 excess.	Either alkali or CO_2 increase but balanced by proportionate rise in other constituents; hence PH normal.	*Alkali excess:* Sod. bicarbonate therapy with slow absorption. *CO_2 excess:* Retarded gas exchange (emphysema) with CO_2 tension chronically increased.	Cyanosis due to deficient oxygen exchange.	CO_2 retention. Alkali retention.
5. Normal.	Alkalies and CO_2 normal at ordinary altitudes.			
6. Compensated alkali or CO_2 deficit.	Either alkali or CO_2 decrease, but balanced by proportionate fall in other constituents; hence PH normal.	*Alkali deficit:* Accelerated production (diabetes) or retarded elimination (nephritis) of nonvolatile acids. Diarrheal acidosis of children (marasmus). *CO_2 deficit:* Overventilation at high altitudes. Hot bath or bakes.	Hyperpnea.	Increased respiration ("blowing off" CO_2). Accelerated ammonia formation and acid excretion. Retention of acid metabolites. Excretion of sod. bicarbonate.
7-8. Uncompensated CO_2 excess.	CO_2 increased without proportionate rise in alkali; hence PH decreased.	Retarded respiration (pneumonia, physical obstruction) or morphin narcosis. Rebreathing. Cardiac decompensation.	Dyspnea.	Increased respiration. Accelerated ammonia formation and acid excretion. Probable shift of acid from blood to tissues.
9. Uncompensated alkali deficit.	Alkali decreased without proportionate fall in CO_2; hence PH decreased.	Terminal stages of nephritic and diabetic acidosis. Deep ether or chloroform anesthesia. Certain cardiac diseases.	Dyspnea.	Increased respiration. Increased acid excretion and ammonia formation (except probably in nephritis).

to the acid side. In alkalosis there is noted an early fall in blood chlorids, a rise in blood urea or nonprotein nitrogen, associated with increases in plasma CO_2 combining power and the shifting of plasma PH to the alkaline side in uncompensated cases. Plasma CO_2 determinations without plasma PH figures will often give misleading data, since plasma CO_2 in uncompensated cases of alkali excess may be normal, and in uncompensated CO_2 deficit cases may be within normal limits. Treatment of cases of disturbed acid-base equilibrium should be directed toward restoration of plasma PH within normal limits. The chart prepared by Van Slyke[19] expresses graphically the different possibilities. Determination of "acetone bodies" in blood and urine are not reliable in the diagnosis of acidosis and alkalosis.

Values of the More Common Blood Tests

After Hawk and Bergeim

	Normal Range Mg. per 100 c. c.	*Increased in*
Blood urea nitrogen	10-15	Nephritis, metallic poisoning, intestinal obstruction
Blood uric acid	2-3.5	Nephritis, gout, arthritis, eclampsia
Blood creatinin	1-2	Nephritis
Blood sugar (glucose)	70-100	Diabetes, pancreatitis, pregnancy
Blood cholesterol	150-190	Diabetes, nephritis, biliary obstruction, pregnancy
Blood, total acetone bodies	1.3-2.6	Diabetes
Blood bilirubin	0.1-0.5	Biliary obstruction, hemolytic anemias
Blood chlorids as NaCl	450-500	Nephritis, cardiac conditions, prostatic obstruction, eclampsia. Low in alkalosis, diabetes, fever, pneumonia
Serum calcium	9-11	Low in infantile tetany, following parathyroidectomy
Plasma phosphorus inorganic	3-4	Nephritis. Low in rickets
Plasma CO_2 capacity — volume per cent	55-75	Respiratory diseases, alkalosis, tetany. Low in diabetes, nephritis
Plasma, or serum hydrogen-ion concentrate	PH 7.3-7.5	Uncompensated alkalosis. Decreased in uncompensated acidosis
Phenolsulphonephthalein test, elimination in 2 hours, per cent	60-75	Decreased in nephritis. Passive congestion
Blood platelets per cu.mm.	250,000-300,000	Normal in hemophilia. Greatly reduced in purpura hemorrhagica
Coagulation time (Boggs)	3-8 min.	Usually normal in purpura hemorrhagica. Prolonged in hemophilia and jaundice
Bleeding time (Duke)	1-3 min.	Very much prolonged in purpura hemorrhagica. Usually normal



NORMAL AND ABNORMAL VARIATIONS OF ALKALI, CO_2, AND PH IN SERUM OR OXALATED PLASMA

(After Van Slyke)

The arterial conditions are indicated by the solid curves, the venous by the broken curves. $BHCO_3$ (alkali), CO_2 and PH values are represented with rectangular coördinates. $BHCO_3$ (alkali) values are expressed in terms of millimolecular concentration (1 millimol=2.24 volumes per cent of bicarbonate CO_2).

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COMPLICATING PATHOLOGIC FACTORS IN ABDOMINAL SURGERY

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Of all the factors that are to be considered in the problem of the reduction of surgical mortality and in shortening the period of convalescence, there is none that is of greater importance than what we designate the bad surgical risk. Surgical technic, under the wing of anesthesia and asepsis, has reached a high point of development. The discovery of anesthesia first made possible those operations of election which were time consuming and delicate. Its advent was hailed as a great boon, as indeed it was. Looking backward, however, it can be seen that the multiplication of operations made possible by it was not an unmixed blessing. The mortality from wound infection in this field, widened as it was by anesthesia, was very great until the studies of Lister, the centenary of whose birth we have just celebrated, inaugurated the era of antisepsis, and enrolled him among the world's greatest benefactors. It is foolish to affirm, as is sometimes done, that operative technic can make no further advances. Nevertheless, it has reached a stage of development, if not perfection, in the hands of master surgeons, which makes its further improvement one of the less urgent factors in the reduction of mortality rates.

The field of diagnosis has likewise been well tilled. Improvements in the art of physical diagnosis; the great development amounting to revolution in the field of laboratory investigation, including in its newer phases the subjects of biochemistry and biophysics; the development to a high pitch of excellence of x-ray technic; and the correlation of the findings of all these methods with the living pathology as uncovered at operation; all have helped to facilitate the diagnosis of some of the most obscure lesions. Here again we would fix no boundary to progress. New signs are being frequently described, new tests almost daily devised, and the number of purely exploratory operations still further cut down. But when the diagnostician has done his best and the trained operator is ready with his most perfect technic, the problem of the operability of the individual patient, and his particular lesion confronts him. As Moynihan has recently pointed out, the surgeon is an expert craftsman, but something more than craftsmanship is needed. "It is now his duty," says Moynihan, "to concern himself with all relevant inquiries as to the condition of his patient before operation, to change those conditions to his patient's advantage, and to control his patient after operation, in order that the safety and the permanent success of his operation may be insured."

It is not possible in the allotted time to do much more than to stress the importance of this subject and to indicate the methods of attack and the standards to be maintained in the study of the handicapped patient. We would likewise emphasize some of the most important of the functional, metabolic, and organic disorders which have to be combated in the pre- and post-operative periods, and indicate briefly the more useful methods applicable to the relief of a few of them—this with special reference to abdominal surgery.

As to the methods of attack: The surgeon is no longer a mere anatomist and craftsman. He must be grounded in physiology and pathology, in diagnosis, and nowadays have more than a speaking acquaintance with chemistry and biophysics. He cannot with human limitations be a specialist in all. Therefore surgery is no longer the exclusive field of the individualist. In effective teamwork is found the answer.

There is nothing occult in the methods by which the great clinics of today are able to show an astonishingly low mortality. It is by the careful routine study of each case, and the resourceful preparation for operation in all, combined with an efficient, up-to-date technic in operating room and wards. Internist, laboratory man, x-ray diagnostician and operator, along with a competent nursing and hospital staff, share alike in responsibility. Hospital standards today rigidly demand such personnel.

There is, of course, a large group of complicating factors which tend to increase the risk of operations in patients with acute and chronic surgical ailments. Acute traumatic lesions, acute appendicitis, and the like, are frequently encountered in persons of otherwise robust health. But as shock and hemorrhage are frequently met with in the first, and beginning sepsis in the second, both of which notably increase the risk and influence the mortality of operations, so, too, in chronic cases of any type large numbers show complicating factors directly or indirectly due to the disease, or perhaps existing independent of it. These may be in the nature of organic lesions of the affected organ, as for example, cholangitis and hepatitis in gall-bladder infections, or dis-

ease of other organs, such as myocarditis, hypertension, and nephritis, associated again with long-standing biliary disease. There may be secondary complicating pathologic states directly due to organic disease, such as jaundice and impaired hepatic function. Metabolic diseases, of which diabetes deserves first and special attention, are a heavy handicap to patient and surgeon. And, finally, there are a very considerable number of complicating conditions not symptomatic of any one lesion, but met with in a variety of pathologic states, such as anemia and other serious disturbances in blood cytology and blood chemistry, dehydration, gastric dilatation, acidosis, and alkalosis. In practically all of these the laboratory of today is of paramount value in determining the presence of such complications, the nature and degree of impairment of function, and by biochemical means of directing necessary measures for counteracting the same. There are, moreover, certain newer methods of treatment of other kinds, well tried out in the hands of surgeons, which merit a wider use than they have yet received.

To turn to the consideration of a few of the major disordered states which as complications affect the operative risk in abdominal cases: transcending most others in importance, it seems to us, are disorders of the circulatory system. A routine examination of the heart has long been recognized as a necessary preliminary to all surgical operations demanding a general anesthetic. It has long been a matter of observation that valvular lesions alone, when well compensated, offered slight contraindication to surgical procedures, and that, aside from chloroform, which has certain inherent dangers that have practically banished it from surgical practice in this country, any of the common forms of surgical anesthesia are well borne under these conditions. It must be emphasized, however, that this compensation must be somewhat greater than that necessary for the usual demands of the individual in order to withstand the greater strain which anesthesia, operation, and the postoperative period entail.

When valvular lesions of long standing are present, inquiry carefully directed may lead to a suspicion of myocardial degenerative changes, which may also exist unsuspected and associated perhaps with hypertension, with renal insufficiency, or complicating long-standing visceral disease. The most suggestive symptom of myocarditis is the increasing difficulty the patient has in doing his usual work. Shortness of breath on exertion and swelling of the ankles at the end of the day are the first warning symptoms. Auscultation shows the characteristic weakness of heart sounds and arhythmia. The heart is usually enlarged, due to dilatation or hypertrophy. With such symptoms and findings, further examination by the cardiograph is desirable before operation. Under these circumstances, rest and the administration of digitalis are indicated before undertaking a major operation for chronic lesions.

We have been much impressed in recent years with the influence of myocarditis on the mortality attending operations on the biliary passages. A careful review of much recent literature on this subject has given us the impression that either our own experience has been somewhat unusual or this factor has been under-appreciated. It is true that all statistical papers on biliary surgery show a certain percentage of deaths from shock and cardiac failure, and in some instances myocarditis is directly named. C. H. Mayo says, "The gall bladder, once infected, becomes a probable focus for aggravation of existing disease of the heart muscle." Others warn against too radical a procedure in the obese, or in those with hypertension. Crile stresses the importance of the close relation of the network of fibers from the sympathetic system and the vagus which surrounds intrahepatic structures, and the damage which surgery, and mainly rough surgery in this region, may do, by interfering with the innervation of all viscera supplied by the parent nerves and ganglia. But Edgar R. McGuire comes out strongly on the subject, and his experience supports our own, as shown by his statement that he has been struck with the number of deaths apparently due to heart conditions, especially in the aged. Many of these cases show no clinical evidence of cardiac disease before operation, but following it, develop acute cardiac dilatation, pulmonary edema, perhaps with urinary suppression, and postmortem examinations confirm the diagnosis, and fail to show intraperitoneal complications as a cause of death. In the last two or three years our own mortality in operations on the bile tracts has been largely due, in our opinion, to this complication. Sudden death twelve hours after operation, in one case; delayed until the second day in another, but attended by characteristic pulse and pressure changes and pulmonary edema; gradual weakening of heart action, and death on the third day in a third—all of these conditions occurring in elderly people. In another case, there was recognition of the risk, delay in operation, preliminary and probably insufficient digitalization, alarming cardiac failure after operation, and recovery

after full doses of digitalis pushed to the physiologic limit.

We would, therefore, stress the importance in all long-standing cases of calculus or other forms of disease of the gall bladder and ducts, and especially in the elderly, of a search for and elimination of threatening myocarditis. If such be present, delay is indicated where possible, and treatment should be instituted; also the choice of anesthesia is to be guided by it, as well as the extent of the operation. Local anesthesia alone may be desirable under such circumstances. While we believe the ideal operation for chronic gall-bladder disease is cholecystectomy, it may be well in the presence of such a complication to content ourselves with the simpler operation of gall-bladder drainage, and run the risk present in some 50 per cent of younger patients of a recurrence of stones. Common-duct stones, of course, demand removal; but delicate meticulous surgery, always desirable in this field, is still more drastically indicated, and the minimum of operative interference consistent with the relief of the patient's disease is to be practiced.

Hypertension is another factor long recognized as affecting mortality statistics. Operations are seldom undertaken at the present time without a blood-pressure record being first made. Associated as it frequently is with advanced kidney damage and deficient elimination, its detection is an added indication for the study of the blood chemistry and the kidney function. Studies of blood chemistry and of kidney function, which often reveal a rise in the blood urea and decreased percentage of elimination of phenolphthalein, are everyday procedures which need not be stressed, and treatment to lower blood pressure and increase elimination will, of course, then be indicated.

It is interesting to note here the analogy between the biliary and genito-urinary tracts which has recently been emphasized by Beer. Cholesterol is a characteristic hepatic excretion; uric acid, a characteristic kidney excretion. The first is present in increased amount in the blood in certain hepatic lesions, the second in renal insufficiency. Both are affected in quantity by diet, and increased in certain infections. In each case there seems to be a threshold in the respective secretions, bile and urine, the overtopping of which results in the deposition of stones in gall bladder and kidney respectively.

A further analogy between liver and kidney is furnished when operations for the relief of obstruction in their ducts is practiced. The complete suspension of kidney function which follows emptying of the urinary bladder in long-standing prostatic obstruction is recognized by all surgeons. Similarly, complete suspension of liver function may follow operations on the duct for relief of obstruction of any kind. Death often takes place in a short time in both instances. In operations for complete blockage of the common duct it is advisable to provide against such rapid and complete abolition of long-standing intrahepatic pressure. In cases of obstructive jaundice, we have been accustomed to make a tight closure of the incised duct around the tube used to drain the duct, and then to occlude the drainage tube outside the dressings from time to time by clamp if indicated. In at least two cases of profuse drainage of bile with alarming collapse, this method of tube clamping has apparently been a life-saving procedure. Crile, operating for stone, sutures the duct after cleaning it out, and relies on the sphincter of Oddi to maintain sufficient back pressure to prevent hepatic-cell engorgement and dysfunction resulting from it.

The frequent association of myocarditis with hypertension has been alluded to. In hypertension, again, the selection of the anesthetic is important. Nitrous-oxid gas is contraindicated because of the effect it has in increasing blood pressure. We have had one case of fatal cerebral hemorrhage following prolonged operation for breast carcinoma in a woman whose blood pressure had been only 160. The same is probably true of ethylene. Local anesthesia or ether are safer. The shorter procedure is to be chosen when possible. Drainage rather than removal of the gall bladder in cholecystitis, and gastroenterostomy as against pylorectomy or resection in ulcer are cases in point.

Acidosis and alkalosis should be considered together, opposites though they be, because of the real danger that exists of confusing them. Without the aid of studies of blood chemistry, differentiation in the early stages may be impossible. Acidosis has long been recognized, while alkalosis as a pre- and postoperative complication has been studied for about ten years. We are now recognizing cases of alkalosis with sufficient frequency. In acidosis there is a decrease in the alkaline reserve of the blood, the chlorids are increased, and the CO_2 combining power is lowered. In alkalosis the opposite condition obtains. Both may be attended by the presence of acetone bodies in the urine. Acidosis is often associated with hyperglycemia, and may follow excessive vomiting. Alkalosis is common in intestinal obstruction, especially high obstruction, and persistent vomiting and continued gastric lavage and drainage often play a part in its

causation. It may follow preoperative medication. Both are observed in infections. In three of the cases of alkalosis observed by us, tetany was a prominent symptom, and in two of these, general convulsions also occurred. Yet two of the three patients recovered under appropriate treatment, even in this advanced stage.

Alkalosis is usually discovered late. Differentiation from acidosis is urgent, as the treatment is conducted along opposing lines. Alkalies are indicated in acidosis, along with glucose, to replace the exhausted carbohydrate supply, and fluids to aid in diuresis and prevent dehydration. The intravenous route may be desirable for all of these. In alkalosis, acids by mouth and rectum are to be administered in large amounts, but treatment must not stop with this. Sodium chlorid subcutaneously and intravenously is indicated in obstruction cases to replace the depleted chlorids, with glucose intravenously along with insulin to protect the proteins and encourage diuresis. The blood nitrogen is increased in alkalosis, and the kidneys are secondarily involved.

Carter says that operation undertaken when CO_2 in the blood is above 85 always ends fatally. He also relies mainly on the HC1 by mouth and rectum when the alkalosis complicates peritoneal infections. Calcium chlorid by vein probably has some influence in controlling the tetany, and in one case we noted marked relief from oxygen inhalations during the attacks.

The subject of acidosis and alkalosis is closely bound up with the problems of gastric retention and dilatation, high obstruction and paralytic lesions of the gastro-intestinal tract. Both may be associated with vomiting, and in the one case the depletion of the glycogen reserve, in the other, of the acid gastric secretions following vomiting, plays an important part in the causation of the condition. Other factors are present, and the symptomatology in the later stages, in regard to type of respiration, mental state, muscle tone, etc., differs widely.

Postoperative vomiting is a symptom, and for relief demands that attention be directed to the cause. Lavage, however, is indicated in most instances. For several years we have practiced on our service the use of the Jutte tube, as recommended first in this country by Matas. Introduced through the nasal passage, usually with much ease, worn for hours or even days without much discomfort, permitting the ingestion of large amounts of fluid, warm or cold, giving an autolavage which is satisfactory alike to patient and surgeon, it seems strange that its use has not become more general. Moynihan recently spoke in the warmest terms of it in his Harveian lecture on pre- and postoperative care. Due caution is necessary when the condition causing the vomiting is persistent. When used continuously for gastric drainage, it may, while saving the patient from death by obstruction, precipitate a threatening alkalosis by the prolonged drainage of the gastric HC1. Therefore, under these circumstances we would advise that a careful watch be maintained on the blood chemistry, and that alkalosis should be warded off or treated by hypodermoclysis, using normal saline solution, and by administration of glucose and insulin intravenously, 2 gm. of the former to 1 unit of the latter, and by acid in the form of HC1, given by mouth and rectum.

THE POOR-RISK GOITER PATIENT

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The marked reduction in the operative mortality and in the morbidity of the surgical treatment of hyperthyroidism in the past twenty-five years has been due to a better understanding of the diseases of the thyroid gland rather than to any improved methods of technic.

Formerly, the mortality of the surgical treatment of hyperthyroidism was very high because only the most severe cases which had resisted prolonged medical treatment were given the benefit of surgery. All toxic-goiter cases were considered generally in a medical light, and surgery got the blame for many deaths which would have been credited to the medical side had there been a little more delay. Von Eiselsberg lost three of his first four patients, while C. H. Mayo lost four of his first sixteen patients, three of the next thirty, one of the next seventy-five, and four of the next two hundred and seventy-eight. This, no doubt, was a lower mortality than that of many surgeons at that time who made so bold as to accept goiter patients for operation, but one which would not be tolerated by the laity of today, for, with the present understanding of the thyroid and its diseases, many clinics report a mortality of less than one per cent in exophthalmic goiter cases and from one to two per cent in toxic adenoma cases.

In former days, all exophthalmic-goiter patients except those in extremis were brought to the operating room, having been told the exact date and time the operation was to be done, were given ether, and a radical thyroidectomy was performed. The mortality, of course, was high and those who did survive the operation did of necessity pass through a most severe and tragic

postoperative thyroid storm. Any patient who survived a thirty-six-hour period of this reaction was thought to be safe—but that thirty-six-hour period was a veritable nightmare to the resident staff and the patient's family.

Plummer in 1907 emphasized the importance of avoiding operations upon exophthalmic-goiter patients during the stages of increased intoxication, and urged that these patients be accepted for operation during a relatively quiescent period. He described in detail the symptoms of the gastric crisis at this time, and stated that an operation attempted during this stage, or within too soon a time following it, would surely be attended by a fatal outcome. In the absence of Lugol's preparation this warning holds true today, but with the proper use of Lugol's solution in the preparation of the exophthalmic-goiter patient, the very toxic and even those in a crisis may be operated upon safely.

In 1908, upon the advice of Kocher, ligations were first employed in this country by Crile, Mayo, and Tinker. The bad-risk exophthalmic goiter was treated in this way, radical thyroidectomy being reserved for the less toxic patient. With the advent of multiple-stage operations, the mortality of the disease decreased, but the morbidity increased.

Plummer in 1922 advocated the use of Lugol's solution in exophthalmic goiter to quiet down the storm of acute hyperthyroidism and prepare the patient for operation. It was but a few years ago that the administration of iodin to an acutely sick exophthalmic-goiter patient was strongly warned against, because it was thought that the disease was due to an excess of the normal product of the thyroid in the body, and it was known that this product contained iodin. The use of iodin as a skin disinfectant and of iodized catgut was given up in many clinics. Plummer noticed, however, that the administration of a dose of thyroxin to an exophthalmic-goiter patient produced no marked exaggeration of the symptoms, and because of this he reasoned that some of the typical symptoms of exophthalmic goiter, at least, must be due to an abnormal product of the gland lacking iodin. He started to administer Lugol's solution on a very definite theory: that exophthalmic goiter is due to an intensive stimulation of the thyroid under which the gland delivers, not only an excess of its normal product, but the abnormal product which is an incompletely iodized thyroxin molecule; and that the symptom complex of exophthalmic goiter varies with the relative amount of the normal and the abnormal uniodized thyroxin molecule, the latter giving rise to the characteristic eye symptoms and nervous phenomena of exophthalmic goiter which Lugol's solution has been found to control so well. If the thyroid is well trained to this intensive stimulation, the product of the gland is essentially normal, though in excess, and postoperative deaths are rare in spite of high basal metabolic readings. If the thyroid is not well trained, the stimulation produces an excess of the abnormal secretion, and postoperative deaths are common, due to the reaction which occurs in these patients overloaded with this abnormal product.

It is most astonishing to observe the change that takes place in the condition of the acutely sick exophthalmic-goiter patient after the administration of Lugol's solution for six or seven days, and to witness the improvement in the nervous system of the patient as the pulse and metabolic rates fall. It is not unusual to prepare patients with a metabolic rate of well over sixty, and a pulse rate of one hundred and thirty or higher for a safe thyroidectomy after a week of preliminary treatment with Lugol's solution, all of whom, with the former methods of preparation, would have had single or multiple ligations with single or double lobectomies performed months after the ligation, the morbidity extending over a year in some instances.

By the use of Lugol's solution, the need for ligation has been greatly reduced, and the number of ligations has fallen from fifty to ninety per cent in some clinics. This procedure, in the writer's opinion, should not be entirely abandoned, but held in reserve as a safe measure for the critically sick patient and for the occasional one who does not respond to Lugol's preparation. One frequently sees a patient in extremis upon admission, deep in the throes of a crisis, improve so much that operation may be performed safely at the end of two weeks. Before we used the iodin preparation, the treatment in such a case was about as successful as was the treatment of a patient in diabetic coma before we had insulin. Now that one can operate safely in such cases, it is extremely difficult not to become enthusiastic over the whole subject. The reluctance which some surgeons have to administer Lugol's solution may be due to the fact that they have witnessed the harm which arises from its incorrect use, or that they have themselves used it improperly in adenomatous goiters. Lugol's solution given to exophthalmic-goiter patients exactly as Plummer advises greatly reduces the mortality and morbidity of the disease.

The patient with exophthalmic goiter, as a general rule, is much younger than the patient

with adenoma accompanied by hyperthyroidism, and since the onset of the disease is sudden, severe, and incapacitating, the patient presents herself very much earlier for surgical treatment than one with toxic adenoma. Though acutely ill, she is in much better physical condition than the one with toxic adenoma, and with the proper study and preparation by Lugol's solution, may be operated upon in one stage with great safety. The operative mortality has fallen, in the clinics prepared to treat a large number of goiter cases, from two to three per cent to one to five-hundreths per cent. In point of fact, many clinics have a mortality of much less than one per cent.

The patient with toxic adenoma presents a very different picture and a very different problem. The disease comes on insidiously; it is mild in the beginning, and the patient is not incapacitated. As a rule, there has been a quiescent adenoma or adenomata present in the gland for many years. After seventeen-plus years, when the patient is in the late forties or fifties, the toxic symptoms develop, and usually it is several years later before she comes for examination, the symptoms having become sufficiently marked to incapacitate her. Frequently, cardiac and renal complications resulting from a long period of intoxication will arise that will render the surgical treatment of these patients hazardous. The writer would far rather operate upon twenty-five seriously ill exophthalmic-goiter patients than five toxic-adenoma patients, for it is safe to say that among those five patients perhaps three will be in the late fifties, with serious renal and cardiac impairment.

The effect of iodin upon the adenomatous-goiter patient already toxic is an open question. Some observers feel that it benefits the patient, others that it does harm. The writer has reason to believe that its use aggravates the hyperthyroid symptoms already present, and he has seen not a few patients made worse by it. The drug should never be given to any toxic adenomatous-goiter patient outside of a hospital, and its administration should be checked by careful chart keeping and metabolic readings. It should be borne in mind that some patients with adenomatous thyroids will develop the exophthalmic-goiter syndrome, and all these will be greatly benefited by the use of Lugol's solution.

For many years the operative mortality of the surgical treatment of the toxic adenomatous-goiter patient in nearly all clinics remained about three and five-tenths per cent. Since 1925 Plummer has reduced this mortality to one per cent by discontinuing the preoperative and postoperative use of digitalis. We have reduced our mortality to the above percentage since following this plan. The fibrillating heart, as a rule, will quickly right itself after operation, and digitalis is reserved only for the case of cardiac decompensation and is given only in guarded doses after all other forms of cardiac therapy have failed.

The successful management of the seriously ill patient with hyperthyroidism demands a correct understanding of the disease and the patient. It necessitates treatment in an institution which understands goiter team play and technic, and by a surgeon and his assistants who appreciate the value of correctly applied psychology.

Crile's anoci-association technic is a most skillful way to approach the seriously ill goiter patient, and the whole plan is a tribute to his splendid genius. We apply it in a measure in our work with great satisfaction and success in that no patient knows exactly when the operation is to be performed. The night before is spent in restful sleep, and morphin replaces the customary sterile-water hypodermic the morning of the operation. The patient goes to the anesthetizing room believing it to be the metabolism room, and ethylene is administered without excitement and often without the patient's knowledge that an operation is about to be performed. It is argued that this plan is troublesome and unnecessary, that no harm arises in bluntly announcing to the patient that an operation is scheduled for the next morning. My experience makes me believe that no matter how much the operation is desired by the patient, no matter how much she resents the delay of preparation, she cannot accept the news of an oncoming operation without intense emotional excitement.

Local anesthesia has many strong advocates, perhaps not so many as formerly, but apprehension of being hurt, the discomfort of tracheal traction which cannot be obliterated by any type of local anesthesia, the increase in the operating time which local anesthesia requires, all throw a tremendous burden on the patient. This additional cardiac load, so easily avoided by ethylene or nitrous-oxid anesthesia, may be the cause of immediate or remote cardiac breakdown, and the unpleasant experience of a thyroid operation performed under local anesthesia may leave a lasting harmful impression in the patient's mind.

All patients with hyperthyroidism should have private rooms and special nurses, whether or not theirs are charity cases. The nurse must have training in the care of goiter patients. Absolute quiet must be maintained, and the family and friends must be kept away for the first few days. It is most important for the patient to sleep and

be kept quiet. Morphin should be given frequently. Allonal works well as a hypnotic. Fluids must be given freely with alkalies either by mouth, by bowel, or subcutaneously. We do not use digitalis preoperatively or postoperatively except for the patient with cardiac decompensation, believing that postoperative fibrillation will usually right itself in a few days in the average case. It is extremely difficult to persuade the younger members of the staff not to give digitalis in such a case.

Iodin (Lugol's solution) should be given immediately after operation and continued during the patient's stay in the hospital and for several weeks at home. Our results have been vastly improved since we adopted this plan of treatment, and morbidity has been greatly lessened.

The writer agrees with Crile in the management of the postoperative rise of temperature, since the rate of metabolism increases approximately ten per cent for every degree of temperature. Ice packs are used freely to combat it.

In the postoperative care of a seriously ill goiter patient, the surgeon and his associates should proceed with calm assurance and gentleness in care and attention. This attitude is most valuable as a therapeutic aid during the crisis through which some of these patients must pass.

Postoperative hemorrhage, which is fortunately rare, demands the immediate and intelligent attention of the surgeon or one of his qualified assistants. If possible, the patient should be transported to the operating room, but if the pressure of the clot is alarming, the wound had better be opened in the patient's room, the clot expressed, and the hemorrhage controlled later if thought best. The lives of five of my patients have been saved by the prompt action by members of the staff. I am satisfied that all these patients would have been lost had the usual intern staff been confronted with this urgent postoperative emergency.

Careful watching and nursing is necessary not alone to enable one to act promptly in emergencies which fortunately are not common, but to prevent pneumonia which is frequently seen and so often fatal. The suggestion of Bartlett to feed these patients, who have great difficulty in swallowing, by a retained nasal tube is a very good one. A great quantity of fluids and nourishment which could not be given otherwise may be taken in this manner during the first few days after operation.

The wound should have the best surgical attention, for not only is infection badly borne by these patients, but the infection may produce enough thyroiditis with destruction of the remaining part of the gland to produce hypothyroidism, although postoperative hypothyroidism is not often seen.

Removal of foci of infection is advisable as soon after operation as is compatible with the patient's strength. This should be after six to eight weeks in the mild case.

The older patient who shows the effect of prolonged and severe toxemia should, of course, have long periods of rest under strict and intelligent medical supervision, but the younger patient who has no symptoms of vascular, hepatic, or renal damage may be returned to partial activity soon after her arrival home. It is a question whether we have not been too solicitous about this type of patient and whether too strict a postoperative régime has not made chronic invalids of many of them.

ABSTRACT OF DISCUSSION

Of Symposium on the Poor Surgical Risk

Frank Lahey, M.D. (Boston, Mass.): The problem of hyperthyroidism should be discussed more frequently by general practitioners, because we have become more and more convinced that a great number of patients with this disease die before they reach the surgeon, and we feel certain that the acute crisis which arises in connection with hyperthyroidism can by no means be satisfactorily and completely met by the use of iodin. A large number of patients with severe acute exacerbations of thyroidism are not affected in the least by iodin by mouth, stomach tube, rectum, or intravenously. Therefore, we should advocate as strongly the early and prompt treatment of emergency cases of impending crisis in hyperthyroidism as we do in diabetic coma. It is when on the brink of acute hyperthyroidism that patients may be rescued by morphin, fluids, and glucose, for when they reach the crisis, many times they cannot be drawn back. If the family physician who sees them at the time could as well comprehend the necessity of emergency treatment in these cases as in diabetic crises, it wou'd be life-saving. In our clinic, we have always found the mortality to be higher without operation than with it.

I do not believe the type of anesthesia used makes a great deal of difference, although local anesthesia, to my mind, adds an excessive emotional burden. The saving factors are proper preparation, rest in bed, preoperative forced feeding, and carefuly study, so that a wise decision can be made as to how much to do. The degree of toxicity should be estimated when the patient is first seen and at her worst. It should be understood that it is not possible for any drug to convert a poor-risk patient with active hyperthyroidism into a safe subject for operation within eight days. In spite of the fact that the pulse and metabolism rates drop and the weight increases, the patient still possesses great possibilities of fatal reaction. Unless the patient has been observed closely in the beginning before she has been iodized, rested, filled with fluid, and overfed, the surgeon may be tempted to do a complete operation, when, had he seen her ten days before, he would have considered her a very poor risk and would have done but half.

Hemithyroidectomies have been a boon to us. We have operated upon 5,400 goiters, and have never had

a toxic-goiter patient die in the second stage. I feel that such cases have a better chance if the operation is done in stages.

Postoperative treatment is the same as for the crisis —rest, fluid, iodin, and plenty of morphin. Fluids and glucose intravenously are of the very greatest importance in the treatment of postoperative thyroid reactions.

James D. Heard, M.D. (Pittsburgh, Pa.): The lowering of operative mortality and of morbidity has been largely achieved through the application of a carefully planned preoperative and postoperative technic based on information obtained through laboratory and clinical research. The combined efforts of surgeons, internists, and laboratory workers were required in order to place the results of thyroid surgery on the high plane it has attained today. A like reduction in mortality has been obtained in the treatment of the surgical complications of diabetes mellitus, and for a similar reason. Unfortunately, we cannot secure equally brilliant results as a consequence of careful preparation and postoperative care of the patient who may be regarded as a poor surgical risk because of chronic gall-bladder disease, degenerative disease of the cardiovascular system, or uterine fibroid. Nevertheless, these patients are entitled to the same meticulous care as is now generally employed in the preparation of the thyroid or diabetic patient. This care is supervised in part by the internist. In time, this principle will be accepted and followed in the major surgical clinics of the country.

Digitalis is of value only in cases of fibrillation with some degree of heart failure. It is incapable, as a rule, of slowing the regularly beating rapid heart. Furthermore, in goiter patients with sinus mechanism, digitalis is capable of doing great harm. In the rapid irregular heart of fibrillation, this drug will slow the rate as it does in rapid fibrillation in the nongoitrous patient. In the presence of heart failure, such slowing of the heart is of advantage. Hence, in the presence of definite heart failure in a patient with a fibrillating goiter heart, digitalis should be used without waiting to observe the effects of other and less efficient forms of cardiac therapy.

Case Reports *

VESICAL CALCULUS IN THE FEMALE†

FRANK C. HAMMOND, M.D., F.A.C.S.
PHILADELPHIA, PA.

Vesical calculus is of far less frequent occurrence in women than in men. This is attributed to the facility with which small calculi are expelled through the short and distensible urethra before they have had time to enlarge by accretion; by the rarity of residual urines; and because the exciting causes, so far as they relate to cystitis, are more easily cured in women. Calculi in the female bladder may originate in the kidney or in the bladder. More frequently the concretions found in the female bladder are incrustations around foreign bodies of various descriptions that may find their way into the bladder. This report does not deal with the latter type.

In a textbook on the practice of gynecology, issued in 1906, under "Affections of the Bladder in the Female," it is of interest to note in the paragraph on "Causes" the following: "Any condition of the urethra, such as stricture or enlarged prostate gland,.....will promote formation of bladder calculi."

According to Bovée,[1] "but 5 per cent of bladder calculi are said to be found in women, and but 4 per cent in the colored race." Kelly and Burnham[2] have had more cases in little girls than in adults.

The two cases here reported are the only women I have seen in thirty-two years with stone *per se* in the urinary bladder.

Case 1. P. L., Italian, aged 35, married, multipara. In the latter part of 1924 she was delivered in a hospital in another state. Vaginal douches were given during the puerperium. About two weeks after being discharged from the hospital, she found a small piece of glass escaping from the vagina, which undoubtedly had become detached from the glass nozzle that was used for douching at the hospital. A few weeks subsequently the woman complained of distress in the lower abdomen, referable to the bladder, and insisted that it must be due to a piece of glass that had gained entrance to the bladder while she was in the hospital. She consulted a physician, who introduced a sound into the bladder and made a diagnosis of stone. The woman was not convinced, and threatened suit against the hospital. She was prevailed upon to go to the hospital for an x-ray study, which she did, and the plate very distinctly showed an oval shadow in the bladder. I was requested to operate upon this patient, which I did at the hospital in question. A vaginal cystotomy was done, with standard technic, and a smooth, dark-gray, hard, flattened, oval calculus about 1½x¾x⅛ inches was easily removed. There was no evidence of cystitis. The incision in the anterior vaginal wall was immediately closed and a self-retaining catheter introduced, which was removed at the end of a week. The patient made an uninterrupted recovery. There has been no return of the vesical symptoms.

Case 2. M. P., Polish, aged 65, widow, was admitted to the Samaritan Hospital, November 11, 1926, for operation for procidentia uteri. Her chief complaints were discomfort in walking, pain across the lower abdomen, and frequent urination (for about four months), all of which were attributed to the uterine displacement. It was not possible to replace the enlarged uterus until the patient was under anesthesia (on the operating table). After replacing the uterus, no bimanual examination was made. Appropriate plastic work first was done to correct the cystocele and rectocele. A median suprapubic incision was made. The abdominal cavity was palpated as a matter of routine, and the findings were negative, with the exception of one stone about half an inch in diameter in the gall bladder. Upon passing the hand down into the pelvis to lift the uterus up for the fixation operation, I was much surprised to find stones in the urinary bladder. The bladder was incised, and

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* Read before the General Meeting of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 5, 1927.

† From the Gynecological Division of the Samaritan Hospital, Philadelphia.

eight faceted, hard, smooth, dark-gray stones, each averaging one-half inch in diameter, were removed. There was no evidence of cystitis. A self-retaining catheter was introduced into the bladder. A ventrifixation was done. As there were no symptoms referable to the upper abdomen, and the patient was not doing well, no operation was done on the gall bladder. Although this patient was considered a good surgical risk, death occurred on the sixth day, attributed to myocardial disease.

REFERENCES

1. Bovee.—*The Practice of Gynecology.*
2. Kelly-Burnham.—*Diseases of the Kidneys, Ureters and Bladder.*

ACUTE HEMORRHAGIC ENTERITIS IN AN ARTERIOSCLEROTIC PATIENT

EDWARD P. GRIFFITHS, M.D.
ETNA, PA.

Mrs. W., aged 65 years, white, entered St. Francis Hospital March 19, 1926. She complained of pain in the abdomen and vomiting. The pain was first noticed three years ago, starting in the right upper quadrant, but gradually extending throughout the entire upper abdomen. Attacks were so severe at times that it was necessary for her family physician to give her a hypodermic. He told her the colic was due to gall-bladder disease. Vomiting started three weeks before admission, occurring occasionally at first, but growing gradually worse until the patient could not retain any food or liquids.

Examination showed general evidence of arteriosclerosis. The abdomen was thin-walled, with fullness, rigidity, and tenderness throughout the upper half, most marked in the right upper quadrant. No masses were felt. She gave a history of typhoid fever in 1906, and rheumatism in 1918. Several specimens of urine were negative, and on three examinations a few pus cells and occasional hyaline and granular casts were reported. The blood count and blood chemistry were within normal limits. The blood Wassermann was negative. Gastric analysis (vomited) showed: HCl 26, bile and lactic acid negative, blood positive. Two complete barium series supported the same findings. The duodenal bulb gave the appearance of duodenal spasm, but no evidence of a defect in the duodenal or gastric outline suggestive of any lesion. The gall bladder showed no shadow suggestive of stone.

Usually the patient could retain a soft diet for breakfast and lunch, but never an evening meal, because of nausea and vomiting. There would be remissions of several days, when she could retain soft food and walk about the ward. Then, without any apparent reason, she could retain nothing by mouth. During the last two weeks that she lived, nothing could be retained by mouth, enteroclysis being given.

The diagnosis was arteriosclerosis, chronic cholecystitis, or gastric carcinoma. Fortunately, an autopsy was obtained. The gall bladder revealed nothing abnormal. The stomach was fairly thick-walled; the pyloric portion appeared congested in the lower part. The small intestines and ascending colon contained a sticky, tarry-black material. Just beyond the duodenum, extending over 20 cm. along the course of the jejunum, a grayish fibrinous exudate was mixed with the black material. This was the site of the hemorrhage. Sections of the stomach and gall bladder showed some sclerosis of the blood-vessel walls, but throughout the lesser bowel this sclerosis was striking.

This inadequate blood supply in the small intestines could cause the muscular spasm of the pylorus, very much the same as that of intermittent claudication in arteriosclerotic individuals. The blood supply in the small intestines could tolerate two small meals, but when additional food was taken, pain, nausea, and vomiting would result. Bacilli gave the name "angina abdominalis" to the condition of arteriosclerotic individuals who have aneurysmal dilatation of the branches of the celiac axis, or who have arteriosclerosis of the gastric, splenic, and superior mesenteric arteries. The attacks may occur suddenly and be violent, like that of angina pectoris. Authors disagree as to whether or not symptoms of arteriosclerosis can be referred to the gastro-intestinal tract. One writer, however, says that in arteriosclerotic individuals, vague symptoms which usually fall under the head of "dyspepsia" are prone to occur sometimes, as gastric ulcer, hyperacidity, or anacidity. In certain cases the arteriosclerosis appears to have a definite causal relation to the disturbed gastro-intestinal condition.

Even as we have cerebral apoplexy, retinal hemorrhages, nephritic hemorrhages, and numerous other catastrophies associated with arteriosclerosis, so we are liable to have this same hemorrhagic factor in arteriosclerotic vessels in the small intestines. Let us consider this case as one of enteric apoplexy. It is just another condition which should be ruled out in all arteriosclerotic individuals with gastric symptoms.

Organization of County Health Departments is being considered by the Medical Society of the State of New York. The attitude of the society is that "the proposed county health department will go far toward teaching the people to practice the newer forms of public-health work," and that the county medical societies are best fitted to lead in the work.—*Medical Journal and Record.*

THE ATLANTIC MEDICAL JOURNAL

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Editorials

MAY DAY - CHILD HEALTH DAY IN 1928

Child Health Day was instituted by the American Child Health Association five years ago as a national movement having as its purpose a better understanding among the American public of the basic importance of child health and acquainting them with the avenues through which it could be obtained.

Great progress has been made in preventive medicine through sanitary procedures established by state and municipal governments, such as the safeguarding of water and milk supplies, the proper disposal of sewage, the supervision of communicable diseases, etc. But the general public had little knowledge of the meaning or value of these precautions, and they often rebelled against what they considered aggressive procedures by health departments, which in reality were being enforced for their protection. They were very slow to accept the newer public-health protective measures and they were almost wholly ignorant of the social and environmental influences which were detrimentally affecting the physical and mental health of their children. In short, they were in a state of apathy—a rather natural attitude, since through generations it had been the habit of people to trust to the Lord and, perhaps to some extent, to physicians to keep their children well or cure them when ill. That they had some personal responsibility in the matter escaped them entirely. They had little idea of what child health meant. The conception of the average individual was that a child was well so long as he kept going. He could emaciate to a shadow, but if he kept going and made no complaint he was classified as well but a little thin.

The American Child Health Association felt very definitely that this widespread ignorance was blocking the progress of public health, and that if it could be overcome, the way of the health officer and the physician would be made easier, as the former would find the great public cooperative, interested in, and receptive of the newer health procedures, and the physician would find his patients seeking guidance as to how to keep their children well and consulting him for the treatment of minor departures from health.

The Child Health Day movement was determined upon as the American Child Health Association's contribution to this end. Pennsylvania is organized for this work on a county unit basis. A chairman is appointed in each county and, acting under the guidance of the State Department of Health and the State Child Health Day Chairman, chooses a committee representing its various communities, the medical profession, health officers, schools, health and social agencies, and lay organizations.

This year Dr. A. C. Morgan, president of the Medical Society of the State of Pennsylvania, has asked the president of each county medical society to appoint a representative to serve on the County Child Health Day committee. The principal functions of this committee is to interest the people of the county in the health of children, to study the child-health needs of the county, and see to it that the proper machinery, if it does not already exist, is created to supply these needs. It is in no sense a committee to carry out specific health procedures, but merely a group of interested citizens who have assumed the responsibility of seeing to it that the children of their county are given a fair chance to have and to enjoy good health. In the development of their work these committees are very much in need of advice and counsel of the medical profession, and it is sincerely hoped that the members of the

profession will participate actively in the work of the committees.

The Pennsylvania Department of Health and the State chairman are again urging committees to center attention on the health of the preschool child, and especially to urge parents to have their children examined physically, to see to it that they are vaccinated against smallpox, that they are protected against diphtheria, and that those who are burdened with physical defects have them corrected before they enter school. An enormous proportion of the children entering our schools are so handicapped as to render their education exceedingly difficult or impossible. Just a few years ago it was officially stated by the Federal Bureau of Education that of the children in the first grade of our public schools, fifty per cent had to repeat that grade, and it was believed that these repetitions were in large part due to the physical unfitness of the child on entering school.

It is the function of the county committees to stimulate interest and gain the coöperaion of the parents. The basic service must be rendered by the physician. Without his aid this effort must necessarily fail.

A CANCER CAMPAIGN FOR PENNSYLVANIA

Members of the Medical Society of the State of Pennsylvania are requested to give careful study to the article on another page by Dr. Kendall Emerson. We believe that, beginning in 1909, the Pennsylvania State Society was the first organized body to undertake systematic efforts to reduce cancer mortality. The Society has felt just pride in this record. However, in actual accomplishments, other states, notably Massachusetts, have recently far surpassed us. Since 1909 much has been done by many organizations and by various methods to educate the public as to the importance of early diagnosis and immediate treatment.

It has been apparent in many quarters that when a patient does come for early treatment, far too often he does not receive the best care available. This phase of the subject has recently been studied by the Cancer Commission of the Pennsylvania Society and, stimulated largely by the fine example in Massachusetts, a comprehensive campaign to improve the service available for our cancer patients has been developed. Increased study of the various cancer problems has already been promised at State and county meetings. Additional and more ambitious plans have been made as follows:

(1) The establishment by the State of a cancer institute at a point later to be determined. The principal functions suggested for this institute are: a division for purely scientific research; a hospital of about 100 beds for treatment and clinical research; facilities for postgraduate study of cancer; a division to supervise sociologic and statistical studies, and also to standardize methods of records, clinical study, and treatment; and a division which will provide for lending radium or emanations to physicians throughout the State who by attendance at postgraduate courses have demonstrated their ability to use them properly.

(2) The establishment at once of tumor clinics in all suitable hospitals throughout the State, so that cases may be better studied by group methods, and more careful courses of treatment planned to involve the proper coördination of all available methods.

(3) The provision this spring in Philadelphia and Pittsburgh of three-day intensive courses in the study of cancer at which it is hoped that at least one representative of every general hospital in the State will be in attendance.

All these plans have the hearty and active support of Dr. Theodore B. Appel, State Secretary of Health, Mrs. E. S. H. McCauley, State Secretary of Welfare, and of President Morgan, of the State Medical Society. It is hoped that they will also have the active support of each county society and every individual member. Make your county cancer meetings a big success. Watch later issues of this Journal for detailed notices of the cancer courses at Philadelphia and Pittsburgh, and see that every hospital is represented by one man or more. Help organize tumor clinics at once in your hospital. Later, when a cancer institute is put before the Legislature, be ready to see and "fix" your representatives.

MEMBERSHIP AND LEGISLATION

In a legislative bulletin recently sent out to the members of the Medical Society of the State of Pennsylvania by the Committee on Public Health Legislation, among the recommendations concerning the forthcoming campaign to secure constructive legislation at the next session of the State Assembly and to block the destructive efforts of various healing cults the following appeared:

"Realize at once the importance of getting every available medical man in your county society (ninety per cent are eligible), and cut down nonmembership in your district which throughout the State is about 25 per cent of the licensed practitioners of medicine. This condition of

large nonmembership is being used by the cultist to confuse the public's mind."

By instruction of our Board of Trustees an effort is being made at this time to enroll every eligible physician throughout the State as a member of the county and State societies. Lists of nonmembers have been sent to every county society with a request to check and correct, and replies have been received from twenty-seven. All physicians who have been approved by their county societies have received sample copies of the Atlantic Medical Journal and an invitation to join our ranks. Their coöperation is needed to help put through a proper legislative program in this the most crucial year of medical legislation. By helping us they will be helping themselves, for it would seem equally calamitous in the minds of all physicians were the bars to be let down to admit to practice on equal terms the ill-equipped cultists who are clamoring for legal recognition. United we must meet this well-organized and determined enemy of the public welfare, for every one who is not with us is against us.

The county societies are urged to coöperate in this drive for one hundred per cent membership. Are you doing your share?

NATIONAL HOSPITAL DAY

We trust our members are bearing in mind that National Hospital Day, May 12th, should be effectively observed. Toward this end, an attractive program and suitable publicity will be in order. Your community should be duly notified that its hospitals will be open to the public on that day, and every effort should be made to have a large attendance in order that the public may see and hear about the institutional needs.

The public must be made to realize its responsibility in regard to hospital support, and this responsibility should be continually brought to its attention, but specially featured on National Hospital Day. It is the day of days to bring contact between the public and the hospitals, that the importance of hospitals and hospital needs may be emphasized.

The activities incident to the proper observance of National Hospital Day are numerous. Baby reunions are a popular feature. Above all, publicity is most important, in order that the people of your community may be properly informed about the service rendered by your institution, and their coöperation secured in broadening its scope. This publicity should be given through the newspapers before, during, and after the celebration, and printed leaflets giving information should be distributed to visitors to the hospital.

All hospitals should anticipate observance as far in advance as is deemed expedient and should plan a proper celebration of National Hospital Day, May 12th.

UROLOGY IN CHILDHOOD

In this number of the Journal appears a very instructive symposium on urology in childhood. Our membership is urged to read these papers, as they all convey very important messages to the general practitioner.

Enuresis is an exceedingly distressing condition to the child, to the parents, and frequently to the physician, because the condition very often proves rebellious to treatment. The paper on enuresis very ably covers its etiology and treatment. The papers referring to acute pyelitis in children are very timely. As one of the articles states, "Pyelitis is one of the commonest diseases in childhood, and yet one of the most overlooked entities." We would especially call the attention of our readers to these very important papers, that they may learn the methods of precision used in diagnosing pyelitis, and thus reduce to a minimum the cases which are too frequently overlooked. These articles, too, show the great help that can be afforded by the urologist to the general practitioner in the treatment of these patients by the use of cystoscopy and ureteroscopy during infancy and childhood.

This symposium gives a wonderful postgraduate course upon the subjects covered, and should be carefully read not only by every general practitioner but by the pediatrician as well.

INTERNS' WALKOUT

According to the *New York Times,* seven interns comprising the entire resident staff of Unity Hospital, Brooklyn, N. Y., walked out of the institution on the night of March 5th, after one of their number was dismissed for refusing to administer an anesthetic for an operation. The superintendent stated that the interns had come to a common agreement to defy hospital discipline, having been guilty of continuous insubordination; they refused to write charts, to make rounds, and to perform duties required of them; they stayed out all night without permission; patients complained that some of these interns asked for payment for extra care; most of the group had served twelve of their fourteen to sixteen months of service; and within a few days after the walkout four of them had

sent in letters of apology, but had made unsuccessful attempts to be reinstated.

The above situation presents no new factors, and to a greater or less extent the conditions exist in every hospital. Mob rule has no place in modern civilization—least of all in hospital administration. Graduates in medicine accept appointments as interns fully cognizant of the duties which properly belong thereto. It would seem nowadays that interns to too great an extent enter upon their hospital assignment with the idea of rendering the least possible service, of being away from the hospital as much as possible, and of "getting by" with as little attention to routine details as possible. It would seem to be sufferance upon their part. They do not appear to realize that an internship is of incalculable value in preparing them for their life work. The personnel of most hospitals is at a loss to understand the attitude of many of the interns toward their service.

There is no excuse for interns walking out. From the standpoint of service to humanity, to which they have consecrated their lives, they should control their tempers until their differences can be adjusted by those in authority. It is true that there are some superintendents who do not make the proper efforts to adjust controversies with the interns. When this occurs, then the latter should appeal their cause to the next superior control (hospital committee, president of board of trustees, etc.). If the board is made acquainted with the facts, the interns may be assured of an impartial hearing, and should abide by its decision—but *walk out? Never!*

AMERICAN MEDICAL EDITORS' ASSOCIATION

The editor of the Atlantic Medical Journal has recently become a member of the American Medical Editors' Association, and it is hoped that this affiliation of our publication with others in the same field of work will be of assistance in broadening the scope of our service —both to our readers and to medical journalism in general through participation in the activities of those charged with responsibility for so important a branch of postgraduate education.

With the death of the late president, Dr. Henry O. Marcy, the Association became inactive for five years. At the time of Dr. Marcy's death, 117 editors were on the roster. Early in January, 1928, the present president, Dr. H. Lyons Hunt, called a meeting of a few New York editors to discuss the advisability of reviving the Association. The vote of those present was unanimously in favor. That need was felt for the organization can best be demonstrated by the fact that not only practically all members of the old Association came in, but over a hundred new members made application, so that today the Association is stronger than it has ever been. As the organization swung into power, numerous meetings were held, officers elected, and committees appointed to study and promulgate a tentative platform. The activity of the Association is shown by the fact that committees have been appointed to study the following subjects: Medical Journal Endowment Fund, Standardization of Medical Education, Standardization of Medical Licensing Examinations, Bringing About of International Medical Reciprocity (four committees, one each in Canada, United States, England, and France, have already been appointed to study this subject), Workmen's Compensation, Pay Clinics, Commercial Laboratories, Open Hospitals, Medical Compensation, Drug Store Prescribing, Pharmacy and Therapeutic Products, Electrotherapeutic Apparatus, Prohibition, Legislation, Advertising, Publicity, Policy, Public Health, Medical Economics, and so on, all studying certain questions and working out solutions of the problems involved, for the advancement and elevation of the medical profession and of medical journalism.

The Atlantic Medical Journal is glad to be affiliated in the work of the American Medical Editors' Association, and will bring to its readers from time to time reports of the research conducted for the benefit of the profession.

WILLIAM CAMERON SPROUL

William Cameron Sproul, twenty-seventh Governor of the Commonwealth since the ending of the Revolution, died March 20th. He was one of the most conspicuous examples of the successful business man able to reach a commanding position in politics which Pennsylvania has ever produced. Elected for six consecutive terms to the State Senate, he was chosen in 1918 to fill the Governor's chair.

During Mr. Sproul's term as Governor there were two outstanding issues with which his name will always be associated. The popular name assigned him, "The Father of Good Roads in Pennsylvania," was no idle compliment. It was due in great measure to his untiring efforts and to his skill and tact in winning over legislators to his views that the State was committed to the policy which has placed it foremost among the commonwealths of the nation in the character and extent of its highways. The con-

struction program he laid down has attained an impetus which is carrying it forward and making the Pennsylvania road system a model for the country.

Another debt owed him by the State arises from his rehabilitation of the public-school system and the lifting of Pennsylvania from a humiliating position in education to a place which commands the admiration and emulation of educators everywhere. The medical profession of the State is deeply appreciative of the advantages resulting from these two conditions alone.

Governor Sproul's name is written indelibly in the story of the prosperity and progress of Pennsylvania.

AN ACKNOWLEDGMENT

We desire to express our appreciation of the replies received to our editorial published in a recent issue under the title "The Editor Asks Your Opinion." Most of them are heartening, indeed, and some of them have given food for earnest thought. We should like to have more responses, telling us wherein we can help solve your professional problems more effectively. We cannot always carry out your suggestions, but we find them of great interest, and stimulating to the editorial cerebration. So we invite your further coöperation in the improvement of your own Journal.

HEALTH BY MAIL

One is astounded in this day and generation at the many facilities whereby information may be obtained at little cost (?) by resorting to the simple procedure of reading the daily press and following the instructions given—enclosing a two-cent stamp and awaiting the reply. Within a few days one may see in the same columns, his diagnosis, treatment indicated, or the suggestion "to see your family physician."

The writer would be the last in the world to do an injustice to any physician or patient, but if this is practicing scientific medicine in accordance with medical teachings and the Hippocratic oath, he would be grateful for an explanation of oaths and ethics. The entire proceeding smacks just a little bit too much of charlatanism, quacks, and personal advertising.

It would appear that no specialty of medicine is now left uninvaded. The surgeon has seen the result of neglect and abuse of incipient cancer; the gynecologist, resultant serious pelvic disorders; the pediatrician, the malnourished child; the general practitioner, the tuberculous in the last stages whose cough was treated by mail—all of which reflect the very energetic activities of the palmist, the astrologist, the patent medicine vendor, and the quack.

The field of neuropsychiatry has not been entirely clear, and the ignorance concerning mental disorders reflects itself in living legends and traditions and living scars on mental patients. But this is not enough. Within the past few years came the electrotherapeutic quack, and more recently the evils of the new school of psychology—that is, the half-baked quack psychologist who is an expert in conflicts and sex obsessions. But this is not enough. We learn through sources reputed to be authentic that at the American Psychology Association held in Columbus the question was very seriously discussed as to whether psychologists attached to universities should give a personal analysis to clients by mail. We are further led to believe that at a western university such a personal-analysis bureau is established.

What next? It is hard to conjecture. Barnum was right and still is right. The public is entitled to its prerogative of liberty of choice. The sincere ethical worker, however, has only one sublimation, and that dependent on a proviso, that Abrams be paged among the dead and apprised that on earth his practice of diagnosis at long range has fallen into the hands of certain groups and is doomed to immortality.

SHOULD PATIENTS ALWAYS BE TOLD THEIR CONDITION?

When to tell patients the exact nature of their illness and when to conceal all or part is a puzzling question physicians are continually called upon to decide. Those who regard unduly the personal feelings of their clients do them harm by concealing facts, which, if known, would not injure them but rather aid in treatment, and even inculcate physical and perhaps moral truths of inestimable value. On the contrary, instances of the evil effect of blunt statements by physicians are well known by all.

Unfortunately, this question is not one to be decided by mere rule of thumb, or even by any formal pronouncement, however authoritative it may be. Action in each case must be determined by a consideration of the patient and the circumstances. These will never twice be the same. The point is one that at times requires the exercise of the highest diplomacy, and the way it is settled distinguishes clearly between the tactful, conscientious, humanitarian physician and the blunt, careless, selfish prescriber of medicines.

YOUR HEALTH AND YOUR BUSINESS

A very interesting article appears under this title in *Nation's Business* for March, by Surgeon General Cumming of the United States Bureau of Public Health. It is advice to the business man how to take care of his physical self. "The business man may go for years without giving thought to that precious machine, his body. He is prone to let bugaboos weaken his resistance." Health is defined as "that condition of body, mind, and morals which makes for the greatest enjoyment of life by the individual combined with the maximum contributed to life." The need of a physical examination and by a competent physician is emphasized. The latter should be selected "not necessarily on the basis of the doctor's reputation for a large and lucrative practice. The local health officer can usually supply a list of competent doctors to choose from, and the large hospitals usually have competent men on their staffs."

This is true, but there are many competent physicians who are not connected with hospitals, and the layman should not be imbued with the idea that the only competent physicians of the community are on hospital staffs. The following statement, however, *is* very true. "There is one infallible way of telling that a doctor is not competent to make a physical examination. If he does not make you take your clothes off he cannot make a competent examination." It is surprising how frequently a physician will not ask the patient to remove necessary clothing, when making a physical examination. The necessity for this procedure is emphasized to the laity by various agencies educating the lay public upon medical matters. When the physician is consulted, the patient, as a rule, is anticipating the removal of clothing, and has prepared for it. What must be the patient's reaction when the physician makes the examination through the clothing? We cannot urge too strongly the removal of clothing, in making a physical examination, and physicians who neglect to do so simply breed distrust in the patient's mind.

Organized medicine is working for the best interests of the physician, and he should coöperate, that the patient may be properly served.

JOTS AND TITTLES

Scientific Discoveries

The following findings have recently been announced:

By Herbert M. Evans, head of the department of anatomy of the University of California, at Berkeley—vitamin F, an essential food element for the normal growth of animals. Experiments on rats and guinea pigs covering three years disclosed that lettuce and liver are especially potent in their effects.

By M. Eiger, F. Grosmann, and E. Klemczynski, in le *Bulletin Médical*—a method of diagnosing gestation by interferometric examination of the blood in 91 per cent of all cases and in 75 per cent of early cases. They claim that a humoral diagnosis of cancer also has been made in 100 per cent of all cases tested.

By E. Vogt, of the Gynecological Clinic, University of Tübingen, in *Münchener medizinische Wochenschrift*—the demonstration of a relationship between hormones and vitamins by a number of tests, upon which basis it should be possible to develop further similarities or identities.

By A. C. Ivy, professor of physiology at Northwestern University; Grant Kloster, Eric Oldberg, and Elizabeth J. Ward, fellows in physiology; and Harold Lueth, assistant in physiology; before the Chicago Society of Internal Medicine—discovery of an intestinal secretion produced in the lining of the intestine through action of gastric juice and of fats and meats consumed. Lack of this secretion, it is claimed, results in failure of the gall bladder to empty, producing stones and other affections of this organ. It is hoped that this intestinal secretion can be extracted in the near future for therapeutic use.

By Professor Paul Delmas, of the Maternity Hospital, Montpelier, France—childbirth without pain or danger, and delivery at the chosen time, by means of a method of medullary anesthesia. Observation of forty cases, it is claimed, has demonstrated the safety and rapidity of the method.

As reported in the *J. A. M. A.*, a professor at the Pasteur Institute, Paris, has prepared a serum for use in mushroom poisoning, by inoculating a horse with increasing doses of the toxin from four poisonous mushrooms. This serum is said to be very effective therapeutically.

Scientific Research

According to the *Medical Journal and Record*, Dr. George Walker, associate in surgery at Johns Hopkins University Medical School, convinced that cancerous tissues are completely destroyed if subjected to a temperature of 111½ degrees Fahrenheit for half an hour, is making tests to discover a method by which the body can be built up to withstand this temperature for the required length of time. The highest temperature endured by the human being is 109 or possibly 110 degrees, so far as is now known.

Under the general supervision of Dr. Eugene F. Du Bois, ten men, including the explorer, Vilhjalmur Stefansson, have recently started on a year's diet of nothing but fresh meat, in an effort to prove that this can be done without developing scurvy. The Russel Sage Institute of Pathology is sponsoring the test, and paying all expenses. If the theory proves correct, it is expected to be a help in opening up the Arctic regions, where the transportation of fresh foods is a serious problem.

The *Mental Hygiene Bulletin* reports that encephalitis lethargica, a disease frequently followed by characterologic changes, particularly in children, is to receive special study by a privately financed foundation known as the William J. Matheson Survey of Epidemic Encephalitis, with headquarters at the New York Academy of Medicine. This study is the first of a series of researches into disorders of the nervous system planned by this foundation, and will deal with all phases of epidemic encephalitis, especially epidemiologic factors, etiology, and methods of treatment.

A Depressing Prospect

According to a famous statistician, there were 150 sane people to every lunatic in 1926, says *London Answers*. But in 1897 there were 312 citizens of undoubted sanity to every madman, and in 1850 there were 535. So the proportion of the sane to the mad is growing steadily less. The statistician calculates that, at this rate of progress, the two will exactly balance in the year 2139. After that, the lunatics will be in steadily increasing majority. It's not a very bright prospect, but we shall not live to see it.

Doctor Bills

Time quotes Miss Elizabeth G. Fox, of the Red Cross Public Health Nursing Service, that each family in the U. S. spends an average of $60 yearly on doctor bills—a total of $1,500,000 daily to the medical and allied professions. Omitting from the computation the "allied professions," the *American Medical Directory* places the number of physicians in the country at 147,010, and the above figures would assure to each of them an income of $10.20 daily, or $3,723 yearly. And then they accuse physicians of profiteering!

Food

Considering that the science of dietetics is still in its earliest infancy and that the most expert experts differ with each other because there is so much more about the science that is unknown than known, it is unfortunate and perhaps premature for restaurants to abandon the old empirical method of giving their patrons what they crave by which mankind has survived the undetermined length of time since its creation. Childs have found it did not pay, since their abridgement of meat diet, failure to serve water with meals and pushing of "health foods" have resulted in decreasing their earnings by half in one year. President and General Manager William Childs maintains that "Man is made of what he eats. Eat for efficiency; go vegetable-wise." Evidently Mr. Childs's patrons do not want to vegetate!

Leading Causes of Death

In 1906 the six leading causes of death in Pennsylvania were: tuberculosis, 10,780; pneumonia, 10,218; diarrhea and enteritis under two years, 9,796; heart disease, 9,533; nephritis, 6,022; diseases of early infancy, 5,518, according to the *Vital Statistics Bulletin* for March, 1928, issued by the Pennsylvania Department of Health. For 1927, the list reads: heart disease, 20,588; nephritis, 9,823; pneumonia, 9,484; cancer, 9,159; cerebral hemorrhage, 8,343; tuberculosis, 6,707. It is of particular interest to note that the two divisions which have disappeared from the list are "diarrhea and enteritis under two years" and "diseases of early infancy," while the two which have been added to the list are "cancer" and "cerebral hemorrhage." Tuberculosis, which was first is now last. Nephritis, which was sixth is now second. Heart disease, which was fourth, is now first. Pneumonia, which was second, is now third, and considering the increase in population, may be said to have decreased encouragingly. The upward trend of diseases of old age indicates the direction which preventive efforts will have to travel in the near future.

The Cancer Campaign

The opening gun in the cancer campaign to be staged in Pennsylvania under the direction of the State Medical Society Commission on Cancer, appears as the leading article in this number. We have been asked to emphasize especially the following statement made by the author of the article: "The medical profession is itself sadly in need of instruction in the early recognition of suspicious signs of cancer. It is the general practitioner who first sees the great majority of cases, and all our statistics still show lamentable delay in diagnosis and treatment." By request of the Commission, very fine postgraduate courses have been arranged in Philadelphia and Pittsburgh, to begin at an early date. Every physician who is not physically disabled should be present at as many of these sessions as possible.

MEDICOLEGAL AND LEGISLATIVE NOTES

The Vote on the Chiropractic Bill.—A transcript from the *Legislative Journal*, Session of 1927, Volume 10, No. 25, for Tuesday, March 15, 1927, pages 1251-1256, is as follows:

The House proceeded to the third reading and consideration of House Bill No. 933 (to provide for a Board of Chiropractic Examiners).

Agreeably to the provisions of the Constitution the "Yeas" and "Nays" were taken and were as follows, viz:

Yeas, 133

Adam	Guerin	Pennock
Adams, E. C.	Gyger	Perry
Adams, P. G.	Haas	Pitts
Alexander	Hagmaier	Post
Armstrong	Hall	Powell
Baily	Harer	Pryor
Baker	Hart	Purucker
Baldridge	Harter	Reader
Baumgardner	Hartsock	Richards
Bell, W. T.	Heffernan	Richardson
Bentley	Hefferon	Riddle
Bicket	Heffner	Rieder
Bidelspacher	Heffran	Root
Bowers	Henderson	Sarig
Brown, E.	Hermansen	Schoener
Brown, T. J.	Hess	Schwartz
Burke	Himes	Scott
Burns	Holtzman	Sheffer
Bush	Hontz	Smith, H. J.
Colville	Horn	Sowers
Conner	Howe	Spencer
Davidson	Hricko	Staudenmeier
Davies	Huber	Sterling
DeFrehn	James	Stickel
Dengler	Jones	Storb
Denning	Katz	Strayer
Derby	King	Sullivan
Diehm	Leidich	Talbot
Dietrich	Loucks	Thomas
Eaches	Lucas	Voltz
Earley	Martz	Watson
Ede	Mast	Weaver
Ederer	McCann	Weber
Emhardt	Memolo	Wells
Emlen	Metzger	Welty
Erdley	Millar	Whitehouse
Evans, F. D.	Miller, C.	Wilson
Evans, T. C.	Moore, F. N.	Witherspoon
Fratt	Moses	Witkin
Fuller	Mumford	Wood
Garard	Munley	Wright
Greeby	Myers	Yerg
Greenstein	Nothnagle	Bluett, Speaker
Griffith	O'Neill	
Grimes	Patterson, F. W.	

Nays, 60

Baldi	Haws	Peters
Bartley	Herbst	Pethick
Bell, F. A.	Holcombe	Rhodes, C. H.
Blumberg	Holmes	Rhodes, J. A.
Brenneman	Kahle	Sautter
Bromley	Labar	Schilling
Brown, E. P.	Little	Shaffer
Buffington	Lockhart	Shumaker
Cross	Lotz	Smith, W. B.
Donnell	Lynch	Soffel
Dunn	Marcus	Stadtlander
Flinchbaugh	Marsteller	Stark
Gann	Mathay	Steedle
Gelnett	McCallister	Storer
Goehring	McClure	Walker
Goodnough	McCormick	Weikert
Grenet	Miller, H. A.	Wettach
Haines	Moore, D. G.	Wheeler
Hantz	Patterson, M.	Williams
Harkins	Peelor	Ziesenheim

Before casting your vote at the primaries on April 24th, cast your eye over the above list, and choose your candidates from among the "Nays."

B. J. Palmer Berates His Pennsylvania Followers.—B. J. Palmer, the daddy of all the chiropractors, evidently does not believe that his followers need entrée to hospitals to practice successfully their art. At a meeting held February 26, 1928, in the Benjamin Franklin Hotel, Philadelphia, "B. J." warned the five hundred chiropractors and sympathizers in attendance with the following words:

"You must clean the inside of your house, or the public will clean it from the outside for you. Fully eighty per cent of the chiropractors in Pennsylvania are practicing medicine, not chiropractic. That is the sorry fact, gentlemen—we are practicing medicine. During the past year I have been in every state in the Union, and this condition exists throughout. My ideals concerning chiropractic were shattered. Chiropractic is doomed. You have drifted so far from the basic principles of chiropractic that you have lost your identity and brought the *basic science bill* upon your heads. Twenty-eight chiropractic schools have closed recently, and many others will follow. The Supreme Courts in seven states have handed down legal injunctions during the past eighteen months, whereby these states are lost forever to chiropractic. I warned Ohio not to compromise. They tried to pass a bill engrossing medical principles and practices. [The Ohio Chiropractic Referendum of last November.] I predicted its failure. It lost by 250,000 votes. There has been $250,000 of chiropractic money spent in California in the last year. You cannot defeat the ends of science. The basic science bills are the buckshot which we deserve for trespassing. When chiropractors preach and practice and try to become physicians, then it is justifiable for the medical men to educate the chiropractor. ["B. J." was referring to the introduction of the basic science bill in Minnesota.] Now beat that argument if you can. That is why we are losing right along. This will probably be the last time you will see me as a chiropractor, as I do not propose to lose my good money in fighting against sound arguments."

The long-haired, bewhiskered "magnetic healer" from Davenport, Iowa, no doubt spoke "from the heart out," since a basic science law in Iowa, with its educational requirements, has reduced the number of students at B. J. Palmer's million-dollar school from 3,500 to a paltry 300. Had "B. J." attended the Pittsburgh hearing before the Freeman Commission, he would no doubt have snorted as he haughtily took issue with the straddling dean of Pittsburgh's spurious chiropractic school when he ponderously told the chairman of the Commission that chiropractors considered vaccination against smallpox as "still on trial." "B. J." evidently knows his leeks well enough to realize that the audacious appeal of the "spinal thrust" that "adjusts and restores," even to the "alleviation" of "lice in the hair," has been lost in the predatory plans of his Pennsylvania offspring, who demand that they be permitted to diagnose (anathema to "B. J.") and treat (additional curses) acute and quarantinable diseases.—*Pittsburgh Medical Bulletin*, March 10, 1928.

Lawyers to Study the Insane.—According to the *Mental Hygiene Bulletin*, the National Law School of Washington, D. C., has made it a rule that its students shall devote a certain amount of their time to observation and study of inmates of the psychopathic ward of Gallinger Hospital in that city. In the ward are men and women who are held for observation by trained alienists and neurologists, so that they may be classified for treatment, some to be consigned to the insane asylum, some to be sent to sanitariums, according to the nature and stage of their mental illness.

Osteopaths and Narcotics.—A decision of the Internal Revenue Department provides that osteopaths qualified only under the laws of Michigan shall be refused registration as practitioners under the Harrison Narcotic Act.

Bill to Prevent Diploma Mills.—Representative Gibson has introduced a bill in the National House of Representatives which would prohibit any institution in the District of Columbia from conferring any degree except by license from the board of education. The board of education would be prohibited from granting any such license until it has established evidence on four points: (1) that the trustees or directors of the institution are persons of good repute and qualified to conduct an institution of learning; (2) that a degree shall be granted only after such a period of residence and quantity of work as is usually required by reputable institutions; (3) that applicants for degrees possess the usual high-school qualification; and (4) that the faculty is of reasonable number and properly qualified, and that the school have suitable laboratories, class rooms, and library equipment.—*Bulletin of the Association of American Medical Colleges.*

Paternity Tests.—There is a great deal of reference nowadays in the daily press in regard to paternity blood tests, most of the activity being in Europe. The latest is from Stockholm, where it is stated that the medical faculty of Lund University, the next oldest in Sweden, has advised the Department of Health in Stockholm, that blood tests to determine questions of paternity can safely be used as legal evidence. It is suggested, in cases where the blood tests give no definite results, as does occasionally happen, that the fingerprint tests be used, as these also tend to prove blood relationship.

A Vicious Medical Practice Bill.—The *Journal A. M. A.* for March 17th points out, in an editorial under this title, some of the deficiencies of the bill, S.3592, introduced by Senator Copeland on March 10th, stating that "osteopathic surgeon generals of the army, navy, and public-health service are a possibility" if this bill becomes a law, since the bill provides that "The

degrees doctor of medicine and doctor of osteopathy shall be accorded the same rights and privileges under governmental regulations." Special attention is called to this editorial, and our readers are urged to protest to their Congressmen against passage of this bill.

PHYSIOTHERAPY

Planning, Placing, and Equipping a Hospital Physical Therapy Department.—"Physical therapy is the scientific adaptation of physical measures for therapeutic purposes. There are two sides to this form of therapy, the scientific and the human. The scientific side includes the intelligent use of heat, light, electricity, massage, and exercise in the treatment of the sick and injured, and the human side demonstrates the continued interest of the physician in his patient through the convalescence to a final recovery and restoration to complete usefulness." Scientific investigation of physical forces has caused them to be recognized as the greatest curative agents, and today the action of few drugs on the human body are as definitely known as the action of ultraviolet radiation. Therefore, as the modern hospital is the place where the sick may benefit by the latest scientific discoveries, it is essential that it should be equipped to make these methods of treatment practical.

In planning a physical-therapy department for a hospital, the first consideration must be the attitude of the staff toward its establishment. The opinions must be considered as to what classes of cases they believe need physical therapy and what physical means they want to use in their cases. Several men prominent in this work have stated that if they were limited to two things in a physical-therapy department they would have heat and static electricity. Many others would have no use for the static current. Economic considerations in regard to the staff and their relations to patients are important. Their attitude to hospital treatment of outpatients is important in its relation to this department. Frequently physical therapy must continue for weeks after the primary medical and surgical treatment has ceased. Many physicians believe that it is better for the patients to discharge them from the hospital and from hospital influences. Some physicians have purchased expensive physical-therapy apparatus and have hired technicians to treat patients in their offices. They are opposed to the hospital treating patients after they leave it, and if the hospital department does treat outpatients, these doctors will not start their cases in the hospital as they do not want them to continue in the hospital after they are discharged. These physicians are the ones who would use physical therapy the most; so this is an important point.

In children, rickets is most often treated. They should be exposed to the air-cooled mercury-quartz light, general body exposures, starting at a 40-inch distance for two minutes, increasing the time every day one minute if there is no reaction of the skin, or every other day up to twenty minutes per exposure, giving two exposures, one anteriorly and one posteriorly. They soon show an increase of blood phosphorus, and the x-ray shows an increase of calcium in the epiphyses. Spasmophilia is another disorder of calcium metabolism. The use of the ultraviolet rays is again the method of choice in treatment. Infantile tetany is also a disorder of calcium metabolism, and associated with disturbance of the parathyroid glands. Children with this condition show a quicker improvement under ultraviolet radiation than do those with rickets.

The mercury-quartz light has a definite and useful field in dermatology. In varicose ulcers of the leg nothing is more striking than its action on a foul ulcer. Using the air-cooled light at 40-inch distance, starting at three minutes and increasing the time and decreasing the distance will clean up the ulcer and start epithelial proliferation. Birthmarks of the port-wine type are treated by the water-cooled light pressed firmly against the skin to get a blistering burn. Our results have been excellent in alopecia areata using the water-cooled light to get a fair erythema. The air or water-cooled light can be used to clear up cases of psoriasis, but will not prevent their recurrence. Lupus vulgaris was one of the first diseases to be treated by artificial light. Finsen used a carbon-arc light for this, and his successor, Dr. Reyn, claims that he gets better results from the start and more permanent cures with the concentrated carbon-arc rays than with the mercury-quartz rays, but the water-cooled mercury-quartz light has been used with excellent results. Acne vulgaris is often benefited by these rays, possibly not so often as with the x-ray, but these ultraviolet rays are without danger of lasting burns. Pityriasis rosea and eczema are often benefited by these rays. They have some value in the treatment of chronic ulcers and telangiectasia caused by x-rays or radium, but have no prophylactic value against acute or chronic radiodermatitis. The ultraviolet light has been used with some good results in chronic otitis media and some sinus conditions, but the number of cases has been too small to draw definite conclusions.

Artificial radiation has no greater field than in the various forms of tuberculosis. The most favorable results with artificial-light treatment is in lymph-node tuberculosis. We use the water-cooled light over the glands in contact for one minute to produce a severe local reaction increasing to three minutes, giving it every other day if the reaction has not been too severe, and using a quartz-rod applicator in sinuses, if such are present. Along with this we use general body exposures with the air-cooled mercury-quartz light every other day, starting at 40-inch distance for two minutes anteriorly and posteriorly. At times it is necessary to add x-ray treatment. Several series of case reports show as high as 90 per cent cured.

In intestinal tuberculosis, 209 cases analyzed by Brown and Sampson showed that of 29 who received no ultraviolet treatment 83 per cent died, while of the 180 treated cases, 65 per cent are living and only 35 per cent died. Of course the beneficial results are hard to prove, as many cases of intestinal tuberculosis spontaneously lose their symptoms and recover. We use the air-cooled mercury-quartz light as previously described for general body exposures. Better results are secured if outdoor conditions are simulated by proper ventilation of the room, even if heat lights have to be used over the patient. Tuberculous peritonitis is treated the same way, and the results are as good as in the intestinal form. Bone and joint tuberculosis should be treated with conservative methods except in those who cannot devote the time to it, and one of the greatest aids to correct orthopedic treatment is ultraviolet radiation, both local and general. Laryngeal tuberculosis is best treated by general body radiation with the air-cooled light, plus local treatments with the water-cooled light with a quartz-rod reflector. Genito-urinary tuberculosis is a resistant form, and

results have been poor. In pulmonary tuberculosis, sunlight and artificial radiation should be used only after rest, hygiene, and diet have failed to cause satisfactory progress. The carbon-arc light emits considerable heat rays and should be used only in stationary cases. In pulmonary cases, carefully graduated doses should be applied, starting with the legs and not exposing the trunk for the first few treatments.

The indications for physical therapy in traumatic surgery are many, and in these cases, emphasis must be placed on starting early, on a careful selection of cases, on avoiding the danger of overtreating, and on the close supervision of the attending surgeon. In muscle and ligamentous strains the pathology should be remembered. There is petechial hemorrhage, round-cell infiltration, and serofibrinous exudate. To disperse this exudate and prevent its increase is the object of physical therapy. Much harm can be done by misdirected physical means, and it is only too often that these cases are sent to a masseur with directions for heat and massage. Massage, except the very lightest, in an acute injury only increases the pathology. In these conditions radiant heat followed by direct diathermy is the treatment that will relieve the pain and shorten the disability.

Sprains, if placed at rest and lotions used, owe their subsequent stiffness to this treatment, not to the injury. To restore a sprained joint to normal motion we use radiant heat followed by direct diathermy for thirty minutes, gentle massage, and early motion. This motion should be passive and limited by the onset of pain. If this rule is observed no damage is done to any torn ligaments.

Dislocations after reduction should have massage and exercises started at once under the care of the surgeon. In fact, all joint motions in a recently reduced dislocation should be done by the surgeon himself after heat has been applied for some minutes to the joint. This motion should be gradual and not at too great an angle before a week or ten days have passed. The function of a joint is motion, and a joint not moved will become stiff. Also the muscles moving a joint are usually supplied by the same nerves as the joint itself, and there is a reflex atrophy of these muscles. This can be prevented only by heat, diathermy, massage, sinusoidal muscle stimulation, and proper motion.

In ankylosis of the joints most of the cases would not require such long treatment if the cases were referred for physical therapy earlier. In all treatment of stiff joints, cases of bony ankylosis and cases in which there is some pathologic process should be excluded, and here physical therapy is useful only in the stiffness caused by adhesions inside or outside the joint, by inflammatory changes, or by refraction of scar tissue. The preparation of a stiff joint for treatment is producing an artificial local inflammation to aid in softening the fibrous and contracted tissues. The agents used are radiant heat, the whirlpool bath, or the galvanic current. The joint is next massaged, manipulated, and exercised to disperse the effusion which the preparatory step has created, to mobilize the joint and stretch the adhesions and scar tissue. The muscles are next stimulated by the sinusoidal current, which current gives a gradual, painless, and wavelike muscle contraction of the usual physiologic type. To regain power in the weakened muscles, voluntary work causing the unconscious use of the limb is the best treatment.

In fractures the surrounding structures as well as the bone are injured. Right fixation by splints or plaster without physical therapy withholds from these structures the treatment by which repair can be accomplished, and thus we have added adhesions and the atrophy of disuse to the original injury. The method of traction and suspension, which in itself is a physical measure, makes it possible to institute heat and massage early in the case. Early physical therapy in fractures prevents muscle atrophy and joint stiffness.

Peripheral nerve injuries are sent to this department both before and after operation. In the after-treatment of nerve injuries, whether operated upon or not, the essentials are physiologic rest in splints to relax the paralyzed muscles completely and to prevent the active muscles from contracting, and restoration of function by physical means. These patients report for daily treatment with radiant heat, massage, slow sinusoidal muscle stimulation, and muscle training. In these cases it is necessary not to give too much electrical muscle stimulation and never to give this without muscle reëducational movements. Muscle and tendon injuries should be carefully treated, and motion started after suture in the direction that relaxes the sutured tendon. Painful amputation stumps are best treated in the whirlpool bath.

In flat feet, heat, massage, sinusoidal electrical muscle stimulation, manipulations, and exercises should be used to strengthen the muscles and ligaments, thus effecting a real cure. Bursitis and tenosynovitis are generally improved with radiant heat and direct diathermy, along with the proper rest by splints and the removal of any foci of infection.

The physical-therapy department should work in close harmony with the orthopedic department, and if the department has a properly trained personnel and good equipment it will receive many orthopedic cases such as infantile paralysis, obstetrical paralysis, posture cases, foot deformities and weaknesses, and spinal curvatures.

Myalgia, myositis, and neuritis are often quickly relieved by radiant heat and diathermy, along with the proper medical treatment. The atonic form of constipation can slowly be improved by adding physical therapy to the medical treatment, and with the care of the diet, plenty of outdoor exercise, application of the sinusoidal current, massage, and exercises these cases surely improve.

The surgical staff will use the high-frequency machine in their operations for electrocoagulation for the destruction of new growths.

These types of cases are just a few of the many that show the wide range of physical therapy, and serve to illustrate the cases to be considered in planning this department. The most important part is to secure a properly trained personnel, and if this is impossible, do not start the department. It is believed that this department should have a physician to supervise it, and it is realized that few hospitals can pay any salary for this and that it is hard to get any physician to do good work for nothing. For this work the physician should receive a small percentage of the department's receipts, or he could be given permission to treat his own cases here for only the cost of the technician's time.

Much of the equipment can be homemade by a carpenter or plumber, and the equipment that is bought should be purchased from a company prepared to furnish good service in repairs or replacement of broken parts. This is most important, especially if the department is small and there are only a few machines

of every type. A whirlpool bath can be made by a local plumber from the descriptions given in the books on hydrotherapy. This piece of hydrotherapy equipment will serve for most of the hospitals except those caring for a number of mental or nervous cases. These require an elaborate installation of apparatus for hydrotherapy. Ultra-violet lamps, high-frequency machines, radiant-heat lights, bakers, infra-red generators, galvanic and sinusoidal machines must be bought from the manufacturers of this type of equipment, and the only caution in this buying is to be sure of your service after the machines are bought and installed.

In planning and equipping a hospital physical-therapy department, it is wise to remember that this form of therapy is not a specific, but is of great benefit in a vast range of medical and surgical conditions, and therefore a modern hospital should be equipped to furnish this form of treatment to such of its cases as need it. The only part of this department that can be standardized today is efficient personnel, and without efficient personnel the department will not be a success. Each hospital will have different problems in establishing this department, and these problems can be solved only by a careful analysis of the whole hospital situation.—*Hospital Progress,* November, 1927.

HOSPITAL ACTIVITIES

Community Chests—Do they Help or Hinder?—Does a hospital win, lose, or draw when it belongs to a community chest? Do the advantages to the hospital of being a participating agency overcome the possible disadvantages? Is the hospital's identity lost, does it suffer by receiving fewer endowments and legacies, does it have harder sledding on building-fund campaigns, do the people contributing to the community chest take advantage of this fact when dealing with hospitals, and are there too many agencies participating? These are some of the questions that *Modern Hospital* has tried to solve in a short study of the relation of the community chest to the hospitals. The results, based upon the answers of hospital administrators in cities where hospitals participate in the community chest fund, and in cities where they do not—and from the tone of their letters, never will—are at least interesting, and it is hoped they will be beneficial to those participating in the community chest and to those who may have thought of doing so.

The summary of the hospitals' answers to the questions shows the following: In most cities there are too many agencies participating, and hospitals do not receive their full share. There is generally a distinct advantage from community funding, but there is always the danger of losing personal contact with the public that the hospital serves. Few of those who contribute feel that they are entitled to free service unless they have been so informed, specifically, by those directly or indirectly in charge of raising the money. The community chest does not generally curb building-fund raising, legacies, or endowments. In some cases it has a tendency to help such projects, while in others it may have a slight tendency to curb them, much depending upon the strength of the chest and the community itself.

It has been claimed many times that those who make out questionnaires can influence the answers by the framing of the questions. This certainly was not the case in this instance, as the style for all questions used in the questionnaire was substantially the same, yet the reactions were radically different. What have those responsible for the community chests to say? How have they answered their questions, and what is their attitude? Generally, one of perfect frankness and friendliness. There seems to be a willingness to coöperate, but one wonders whether this is but a cloak for diplomacy. Would the director increase the allotment to hospitals were it shown to him that it was just to do so, and would he be permitted to do so by the governing board of the community chest? These are questions that were not asked in the questionnaire, and it is perfectly obvious that any sort of answers that could be tabulated could not be obtained. As to the first question asked the executives of community chests, "Have the community-chest collections increased or decreased per population during the past ten years or since starting?" the twenty chests serving hospitals stated generally that there had been an increase and one stated that the per capita was about stationary. The average percentage of the total amount going to hospitals, based on the answers of seventeen chest executives, was 14.99 per cent, with a low of .02 per cent and a high of 36.5 per cent. The third question, "Do all hospitals in your city participate?" brought back the report that only in a few cities do all of the institutions participate, while in most of them none do or only one. City hospitals as a rule do not, many religious hospitals do not, and this leaves only a small number who are apparently willing to throw in their lot with the community chest. It is quite true that in many of the cities it was not necessary for the hospitals to participate, as they were self-supporting; in other cases, the hospitals would not live up to the rules of the community chest and therefore could not belong.—*The Modern Hospital.*

These Principles Will Help in Obtaining Permission for Autopsies.—It is essential that the whole staff agree on the principle that permission should be sought in every fatality. No case is too hard, and none too delicate to approach. Permissions are secured in direct proportion to the frequency with which they are asked for. Without any special organization for the purpose, at least 20 per cent can be secured for the mere asking by the attending physician. A reasonably satisfactory system will even now yield fully 50 per cent of permissions. It can be said without hesitation that permission should be sought in all cases, hospital as well as private, pay patients as well as charity. If any attending staff man objects to having permission sought in his private cases, and will not seek this himself, some method of dealing with him should be found, whereby he may learn to see the matter in a different light. There are doubtless many capable men in the city ready to take his place, and make much better use of it.

Each hospital must work out its own system for securing the permissions, as conditions and personnel differ so widely that no rules can be laid down. The same qualifications are needed in "selling" an autopsy as in "selling" an operation or a line of treatment. In general, more experienced and older men can command the attention of relatives better than younger and less experienced ones. Those who already hold the respect and confidence of the family can do more than those who are relatively or absolutely strangers. There should be a hospital rule that no death certificate will be signed until someone interviews the relatives with respect to permission. There should be either permission or a definite refusal. The mental attitude of the solicitor is very important. If he looks upon the interview as one of the unpleasant parts of his day's work, he is

beaten already. If, on the other hand, he faces the situation with a determination to win, he may well derive a certain satisfaction from his success.

Arrangements with pathologist and undertaker. In accordance with promises made to the relatives, it is incumbent upon the solicitor to see that these are carried out to the letter. This may involve plans made with one or both in order that no delay be caused or that permission be not exceeded, or that other details be strictly observed. The least deviation from these is likely to cause trouble, such that it is difficult to explain to relatives in their present state of mind. No two solicitations are exactly the same, but there are certain points that should be kept in mind.

Some things to avoid: Do not use the words "postmortem" or "autopsy" when it is possible to convey the idea sufficiently with the words "examination of the body." Do not hurry the interview, or appear too busy to talk calmly and with deliberation. Do not antagonize, quarrel, or dispute. Do not appear too eager to secure permission. Do not enter into any more detail as to the nature of the examination than is absolutely necessary. Do not approach relatives in an impromptu manner, in corridors, bedrooms, etc. Do not solicit permission from a group of relatives if this can be avoided. Do not use an interpreter if it is possible to secure a solicitor who speaks the language of the relatives. Do not mention autopsy to relatives before death except under most unusual circumstances. Do not agree to buy an autopsy by canceling bills or fixing things with the undertaker. Do not seek permission for a partial examination until it is reasonably certain that a complete one cannot be secured. Do not permit relatives to be present at the examination unless permission is contigent upon it.—*Hospital Management,* November, 1927.

Locking Vacant Rooms.—A superintendent recently requested a digest of opinion of other executives as to the advisability of locking rooms after patients had been discharged. Briefly, the advantage of the practice is the assurance that the room will be ready when needed, and that it will not be necessary to make a last-minute search for missing articles. The use of a master key in the possession of the admission desk clerk and floor supervisor makes certain that there will be no delay in admitting the patient. Several hospitals, not using master keys, reported disagreeable delays, and one hospital indicated that such delays resulted in the discontinuance of the practice. Another hospital keeps a supply of gowns and towels in the office, and these are taken to the room with the new patient. This institution found that these articles were most frequently taken from prepared rooms. Unlocked rooms make it easy to "borrow" articles and supplies, and their lack at the time the patient is admitted to the room give a bad "first impression" which, as the saying goes, is lasting. So where the rooms are locked, it is the custom to see that everything is in order after the previous patient has gone, then lock the door, and thus insure the immediate readiness of the room when the new patient arrives. Lack of sufficient supplies and lack of a good system of checking are suggested as causes for the "borrowing" of articles.—*Hospital Management.*

Keep Records Up.—At a recent hospital gathering at which the matter of obtaining coöperation of doctors in the writing of records was discussed, one superintendent asserted that in his institution the names of doctors who were delinquent in their record work were posted on the bulletin board near the elevators on the first floor. This bulletin board is seen by all visitors who enter the institution, and the practice has had a very salutary effect in developing much more active interest among the physicians and surgeons in seeing that all details of their records are properly and promptly filled in.—*Hospital Management.*

PUBLIC HEALTH

Erie County to Have Tuberculosis Hospital.—In compliance with a vote of the people in 1922, the county commissioners have voted to erect a county tuberculosis hospital of not less than 100 beds, and at a cost of $250,000. The county solicitor has been authorized to arrange a bond issue to provide funds, and the architect has been requested to submit plans.

Eye Care in Measles.—Probably more harm has been done by the old-fashioned notion that the child must be kept in a dark room during an attack of measles because the eyes are inflamed than by any other single nursing fault. Fresh air is needed to avert and counteract the infection which kills those children who are lost from pneumonia; and good light is needed not only to kill the germs of pneumonia and other germs, but also to avoid the serious eye conditions developing as a later complication in measles. The head of the bed should be turned towards the light, and the eyes protected by a screen or eye shade from any glare. Reading should not be permitted too early in convalescence, so that the eye muscles, which are relatively as weak and flabby as are all the other muscles of the sick child, may not be overtaxed, and crossing of the eyes may be prevented. This is the gist of a radio talk recently presented over station WJZ by Dr. B. Franklin Royer, Medical Director of the National Society for the Prevention of Blindness.

Mental Hygiene in Modern Education.—In elementary and secondary schools the better understanding of the child mind (which means fine appreciation rather than classification by tests) is leading to better mental hygiene. The fitting into grades in school by the measure of general progress, rather than advancement in one subject, and above all the avoidance of the terribly depressive and repressive repetition of a grade must redound to the physical and psychic welfare of the child. Each year sees a better appreciation of the fact that the exceptionally gifted child (the child who is by no means equal in all things or he would not be exceptional) is often the one on whom the world depends for later guidance along the lines of his special aptitudes, and the physical health of such children is receiving better care through better understanding of their mental peculiarities. The child of very deficient mental powers is also receiving better attention by fitting his school work to his abilities and looking in such training to his future welfare.

The mental and emotional life of the twentieth century high-school and college student is more complicated than formerly, and while the lowering of standards and the increase of extracurricular activities have made life more livable for those of inferior intellectual caliber or interest, there is often need for mental hygiene. Special personal and vocational guidance has been furnished with benefit in many schools. Better physical care of the student has furthered his mental health to some extent, but, contrary to much teaching, the possession of a sound body does not insure against mental ailments.

Some application can be made of psychology for the preservation and promotion of health from the mental side; and departments for research and for consultation service have recently been established in institutions of higher education.

The most elaborate venture along this line is the Institute of Psychology at Yale University, which was announced in 1924 as the "first organization of its kind." This institute will be financed for five years by the Laura Spelman Rockefeller Memorial and will devote its efforts to investigation of behavior, experience, and personality. A group of special workers has been brought together. Psychology will be considered in all its broadest aspects, and the institute expects to instruct its students in the knowledge of human behavior and the practical application of that knowledge.—From the *Biennial Survey of Education, 1924-26,* by the Bureau of Education, U. S. Department of the Interior.

Life Expectancy in Selected Countries.—The following table, for which we are indebted to the Pennsylvania Department of Health, shows the life expectancy in a number of countries. It contains some interesting and perhaps some unexpected facts.

Country	Years	Years of Life Expectancy		
		Males at Birth	Males at 10 Years	Females at Birth
Australia	1901-1910	55.20	53.53	58.84
Denmark	1906-1910	54.9	55.1	57.9
England	1901-1910	48.53	51.81	52.38
France	1898-1903	45.74	49.75	49.13
Germany	1901-1910	44.82	51.16	48.33
Holland	1901-1909	51.0	54.3	53.4
India	1901-1910	22.59	33.36	23.31
Italy	1901-1910	44.24	51.44	44.83
Japan	1898-1903	43.97	48.23	44.85
Norway	1901-1910	54.84	52.92	57.72
Sweden	1901-1910	54.53	54.03	56.98
Switzerland	1901-1910	49.25	50.34	52.15
United States	1901-1910	49.32	50.86	52.54
United States (Original Reg. States)	1919-1920	54.05	51.02 (age 12)	56.41

An Epidemiologic and Statistical Study of Tonsillitis.—A study recently made by the U. S. Public Health Service is reported in *Public Health Bulletin No. 175.* The data used consist of (a) records of sickness occurring in several groups of people kept under observation for illness for several years, and (b) results of physical examinations made by medical officers of the Service in the course of various field studies conducted during the past ten years. Some of the outstanding results are summarized:

The incidence of tonsillitis and related pharyngeal conditions is highest among children of school age. Laryngitis is more frequent among adults. Tonsillitis and related conditions of the pharynx appear to be the only important respiratory affection which shows this particular age incidence. The incidence of these conditions is higher for females than for males.

The relative age incidence of acute tonsillitis and sore throat is strikingly similar to the relative age prevalence of diseased tonsils as found on physical examination, as is also the relative prevalence of enlarged tonsils, though not to the same degree. The prevalence of defective tonsils is not significantly greater in rural than in urban districts, although tonsillectomy is considerably more prevalent in the latter. The maximum prevalence of defective tonsils appears to be reached about April, two or three months after the maximum incidence of acute tonsillitis.

The incidence of sore throat seems to be more than twice as great for school children with defective tonsils as for those whose tonsils have been removed. The incidence among children with normal tonsils also appears to be less than among those with defective tonsils. Other respiratory diseases appear to be somewhat more frequent among children with defective tonsils, although this factor seems to make little difference in adults.

Rheumatism and related conditions are more common among adults who have attacks of tonsillitis.

The incidence of diphtheria among children with defective tonsils seems to be much higher than among tonsillectomized children. Among children with normal tonsils it appears to be only slightly higher than among those whose tonsils have been removed.

Adenoids, enlarged cervical glands, conjunctivitis, eye strain, and decayed teeth tend to be slightly more prevalent among children with defective tonsils. Filled teeth are more prevalent among tonsillectomized children, indicating that these children are apt to come from families which are more able or willing to secure correction of other remediable defects in their children. Height and weight measurements and records of growth in weight over a period of nine months for a group of school children did not show any advantage in the growth of one tonsil group over another.

Morbidity in Pennsylvania in January, 1928

Locality	Disease				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Allentown	18	4	57		31
Altoona	5	1	61		9
Ambridge	13	12	6		
Beaver Falls	1	2	6		
Berwick			2		
Bethlehem	13		45		13
Braddock	3	7	1		1
Bradford	2	7	1		
Bristol	1		3		2
Butler	3	3			12
Canonsburg	1	4	1		
Carbondale	2				
Carlisle					
Carnegie	3	6			
Carrick					
Chambersburg			2	1	
Charleroi		1			
Chester	1	2	4		
Coatesville		2	2		
Columbia				2	
Connellsville	1	1			
Dickson City	4				
Donora	2	26	1		
DuBois		1	12	1	2
Dunmore					
Duquesne		28	3		
Easton	1	118	8		1
Erie	18	3	79		4
Farrell		3	1		
Greensburg			1		3
Harrisburg	2	9	18		4
Hazleton		17	6		3
Homestead	2	1	4		
Jeannette		1	2		
Johnstown	18	1	9		5
Lancaster	7	413	3		40
Lebanon	1		6		
McKeesport	1	78	19	1	4
McKees Rocks	6	2			

Locality	Disease				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Mahanoy City	2				8
Meadville					
Monessen		40	10		
Mount Carmel	2				
Nanticoke					
New Castle	1	9	2		1
New Kensington	1	5	4		
Norristown	1		1		4
North Braddock	1		2		
Oil City			2		6
Old Forge					
Olyphant	2		2		
Philadelphia	217	186	345	4	256
Phoenixville			12		
Pittsburgh	153	862	119	6	57
Pittston	6	13			
Plymouth	6	16	2		
Pottstown	3	1	1		
Pottsville	1		3		
Punxsutawney		1	5		
Reading	14	2	116		8
Scranton	63	3	20		22
Shamokin	9		1		1
Sharon	1		8	2	6
Shenandoah	1				
Steelton		1	2		
Sunbury	1	2	1		3
Swissvale	7	2	3	1	5
Tamaqua	1	1	5		3
Uniontown	1		6	1	
Warren	2		9	1	20
Washington		21	8		6
West Chester			4		1
Wilkes-Barre	22	197	11		8
Wilkinsburg	3	62	6		9
Williamsport	2		2	1	35
Woodlawn		13	1		23
York	1	2	12		2
Total Urban	653	2,192	1,088	21	618
Total Rural	470	1,771	1,260	59	526
Total State	1,123	3,963	2,348	80	1,144

Morbidity in Pennsylvania in February, 1928

Locality	Cases				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Allentown	29	12	77		50
Altoona	4	1	40		
Ambridge	9	16	8		1
Beaver Falls	1	9	10		
Berwick		1	1	1	
Bethlehem	4	6	36		10
Braddock	1	9	2		
Bradford	3	5	3		4
Bristol	1		1		4
Butler	1		5		9
Canonsburg	1	1			
Carbondale	2				2
Carlisle					
Carnegie	2	14			
Carrick					
Chambersburg			2		
Charleroi		5			1
Chester	3	16	4		
Coatesville	4		2		
Columbia	1				3
Connellsville	1		2		
Dickson City		1	2		
Donora	6	4	3		
DuBois	1		14		13
Dunmore					
Duquesne	1	6	1		
Easton	9	103	2		
Erie	20	6	194		10
Farrell					1
Greensburg		16	4		
Harrisburg	16	62	1		4
Hazleton	2	31	4		10
Homestead	1	6			1
Jeannette					
Johnstown	29	4	7		1
Lancaster		480	3		59
Lebanon	1	1	10		1
McKeesport		107	8		11
McKees Rocks	5	2	4	1	
Mahanoy City	1				1
Meadville		1			
Monessen	4	10	6		
Mount Carmel	7		1		
Nanticoke	5	85	7		1
New Castle	1	7	1		
New Kensington		12	8		
Norristown	2	1	6		1
North Braddock	2	2	1		
Oil City			3		2
Old Forge	3				
Olyphant	1		3		1
Philadelphia	246	589	394	8	295
Phoenixville	4		17		
Pittsburgh	1,222	776	129	5	62
Pittston	12	41			1
Plymouth	2	64	12		
Pottstown	3	21	6		3
Pottsville	3		4		4
Punxsutawney	1		3		
Reading	7	5	109		11
Scranton	38	11	16	2	12
Shamokin	5		4		5
Sharon			1		
Shenandoah	1		1		
Steelton		5	2		
Sunbury			1		15
Swissvale	8	9	9		7
Tamaqua			6		3
Uniontown	1		2	1	
Warren		1	10	22	
Washington		16	3		
West Chester			3	1	
Wilkes-Barre	29	302	4		29
Wilkinsburg	1	116	6		14
Williamsport	5		3	1	41
York	1	2	22		2
Aliquippa*		106			5
Total Urban	657	3,060	1,314	21	732
Total Rural	352	2,302	1,246	29	629
Total State	1,009	5,362	2,560	50	1,361

*Woodlawn was annexed to Aliquippa February 1, 1928.

The Tuberculosis Campaign.—*The Bulletin of the Pennsylvania Tuberculosis Society* reports the finest kind of coöperation from organizations and individuals in the country-wide campaign now being carried on to secure early diagnosis of tuberculosis. The Pennsylvania organization and affiliated agencies have distributed noteworthy quantities of the campaign ammunition, including 1,040,000 of several kinds of four-page leaflets, 49,000 of various sizes of posters and cards, 120,000 posterette stickers, 2,500 window display panels, 37 motion-picture films, 125 lantern slides, 90 cuts for publicity, 100 health plays, "The Future Doctor's Clinic," and 200 campaign manuals. Many requests for speakers have also been supplied.

National Negro Health Week was observed from April 1st to 8th.

Basis for a Definition of Pasteurization.—The report of the Committee on Milk Supply published in the *American Journal of Public Health* discusses the principles on which a definition for pasteurization should be based, and includes the following: "(1) Health officers are not now possessed of the proper data to enable them wisely to formulate and apply a complete definition of pasteurization; (2) a proper definition of pasteurization will be one which applies to every particle of milk pasteurized and which requires in addition a margin of safety for the design and operation approximations of commercial practice; (3) each make of apparatus must be tested to determine its required margin of safety and to disclose design defects which must be corrected, and then subsequent tests should be made to determine the continued efficiency of the apparatus under operating conditions; (4) the testing work should preferably be done by an agency whose work will be respected nationally by both health officers and the industry; (5) until the desired information is available, health officials should support vigorously effective control over pasteurization."

INDUSTRIAL MEDICINE

Visiting Nurse's Position Important in Industrial Medical Work.—The advantage of employing only well-prepared and experienced visiting nurses in industrial positions is obvious to people who want experts in other special departments. Socialized medicine has made great progress during the past few years, and socialized nursing has more than kept pace with it. A good visiting nurse is a graduate registered nurse plus many other things. She may be asked to give the most delicate kind of nursing treatment or she may be selected as an arbitrator in a family quarrel. She may have to help find work for the children because the father, her first patient and her real reason for going into the home, will be incapacitated indefinitely. She must know the resources of a community, its playgrounds, its public schools, special schools, hospitals, dipsensaries, employment agencies, and institutions. A visiting nurse in a small town, who is the only public-health nurse there, will naturally have to do a great deal more for the employees and their families than a visiting nurse who has all the agencies of a large city upon which to call. In short, a good visiting nurse knows how to get helpful information and instruction for her family even if she does not know what advice to give at the moment. She must recognize symptoms and be able to make adequate reports to people most interested.

No visiting nurse gives actual care or specific advice regarding treatment to patients who are not in charge of a physician. Any one who stops to think understands that doctors are licensed to practice medicine; registered nurses are licensed to practice nursing; and the use of a specific drug or solution or even a treatment, except once as an emergency measure, is not tolerated by good nurses. This is one of the big problems facing an industrial nurse, for the only distinction between an industrial visiting nurse and any other kind of visiting nurse is that the first works exclusively in the homes of the employees of the firm or firms contracting for her services. Therefore, the industrial visiting nurse must have a physician's order before she can care for his patients.

Many visiting nurses hold office hours in the plants in which they are employed, or maintain small first-aid stations. Whether the visiting nurse in the industrial plant works out from the staff of a local association of public-health nurses or is employed by the firm, she should be well qualified to hold a difficult, important post for which she is equipped by education, technical training, and previous public-health-nursing experience.—*Hospital Management.*

Industrial Safety.—The more we read the bulletins, journals, magazines, and literature on industrial activities, the more we find impressive evidence of industry's continued concern for the health and safety of its employees.

Of course, it may be said that it is only a matter of dollars and cents that prompts industries to engage in health and safety campaigns. Physically fit employees, who guard themselves and are guarded against accidents, mean better and bigger production.

But even one who persists in holding that view to the exclusion of all others must admit that it is a fine thing for the general health of the nation that industry has entered so extensively into health and accident-prevention work.

Efficient Relief Plan.—The serious plight of the average workman and his family when his wages are cut off because of sickness, accident, or death has long been realized by both workmen and employers, and relief against this condition has come to have an important place in any industrial-relations program. The almost universal adoption of workmen's compensation laws has solved the problem of the accident hazard, but the loss of wages due to industrial accidents is slight as compared to the losses and consequent suffering due to sickness and death from other causes. Fraternal organizations offered probably the earliest means of protection against these hazards and pointed the way. Starting frequently among the employees of a single shop or department, associations for mutual benefit and relief, but without the other features of the fraternal organization, have become fairly general, and in many plants have been functioning for considerable periods.

When, a few years ago, through the acquisition of the Midvale, Cambria and Lackawanna Companies, Bethlehem brought under one management the plants and properties of these widely scattered units, as well as those already under its control, practically all of the larger plants and units had some form or other of benefit association. The object of the plan, as stated therein, is "to provide, at a minimum cost, relief benefits for employees participating therein, when disabled by sickness or accident for which they are not entitled by law to compensation or other payment from the corporation or any of its subsidiary companies under workmen's compensation laws or otherwise, and for

widows and dependents of such employees in case of death."

The plan provides for three classes of participants, varying, respectively, in the amount of benefits payable and in the contribution required. Class 1 pays a death benefit of $500 and a disability benefit of $10 per week in return for a contribution of $1.00 per month; class 2 pays a death benefit of $1,000 and a disability benefit of $11 per week in return for a contribution of $1.50 per month; class 3 pays a death benefit of $1,500 and a disability benefit of $12 per week in return for a contribution of $2 per month. Contributions are collected monthly through deductions from the participants' pay. The class for which a participant is eligible depends, with a few minor exceptions, on his annual earnings. Class 1 embraces those whose earnings do not exceed $1,500 a year; class 2, those whose earnings exceed $1,500; and class 3, those whose earnings exceed $2,500. An employee may elect a lower class than that to which his earnings entitle him, but he cannot elect a higher. Participation in the plan is open upon application to all employees of the corporation. Those employed before the plan was instituted were accepted without examination and without payment of an application fee. New employees must pass a physical examination and pay an application fee of $1.00. Participation is purely voluntary, but having once been accepted, a participant remains entitled to the protection of the plan so long as he remains an employee and pays his contributions.

Physical examination of applicants is required, not because selected risks are regarded as necessary for the soundness of the plan, but for other reasons: In the first place, fairness demands that the plan should not be burdened with men who have applied for participation while suffering from some organic or other disease which will make them immediate candidates for relief; secondly, such an examination enables the company to avoid employing men whose condition might result in accidents to others as well as themselves; and thirdly, it may be of incalculable value to the man himself, in that it may disclose other conditions of which he is not aware but which, if taken care of in time, may readily be cured. Generally speaking, any man whom the physician will accept for employment will be accepted for relief.

Under the plan, death benefits are paid irrespective of the cause of death, but disability benefits are not paid where the disability results from industrial accident for which the injured party is entitled to compensation, nor are they paid in the case of salaried employees so long as they continue to draw their salary. Under certain limited circumstances a participant who has become totally and permanently disabled and has exhausted his disability payments may, while living, draw in installments 80 per cent of his death benefits in the form of total and permanent disability benefits, a valuable privilege when he is alone in the world and would otherwise be wholly dependent on charity. The balance of 20 per cent is retained in order to meet his funeral expenses, and if not so used, is paid over to his beneficiary on his death.

Disability benefits are paid semimonthly to or on the order of the participant himself. They begin on the eighth day of disability, and continue for a period varying from thirteen weeks to four years, depending upon the time the employee in question has participated in the plan.

It is important in any plan involving the payment of disability payments to make certain that disability really exists, and the plan contains a number of safeguards in that respect. The plan is administered by the relief department of the corporation. One of the most striking facts gleaned from the first year's experience was the effect that sickness plays in employment, the time lost during that period from that cause, representing an average of six days for each employee of the corporation as against one day lost through industrial accidents. Accident-prevention work has depended to a very considerable extent upon the accurate and reliable statistics showing the causes of accidents. Prevention of sickness, which, as their figures indicate, is responsible for six times the time lost due to accidents, must likewise depend to a great extent upon reliable statistics, and these are being made available for the first time through this relief plan. Just as a physical examination of the individual gives an opportunity for curative measures, so disclosure of the prevalence of any particular form of disability in any plant or community offers both a challenge and an opportunity for preventive work and the application of corrective measures which will, it is believed, over a period of time, result in reducing the amount of illness to an extent equal to that attained in the field of accident prevention.—*Hospital Management.*

Ventilation of Public Garages Shown by Labor Department Models.—Following a survey of the industrial hazard created by the presence of relatively large quantities of carbon monoxid from automobile exhausts in the air of public garages, the New York State Department of Labor has prepared a number of models which show how such garages can be effectively ventilated so as practically to eliminate the hazard. A description and illustrations of these models are given in the December number of the *Industrial Hygiene Bulletin*, published by the New York State Labor Department.—*Health News.*

RESOLUTIONS BY THE PHILADELPHIA LARYNGOLOGICAL SOCIETY

At a stated meeting of the Philadelphia Laryngological Society, during a discussion on "The Tonsil Problem in the Aged," a member recommended the removal of tonsils by electrocoagulation or desiccation. Wide publicity was given in the press to the statement that this method had been approved and sponsored by the Society. In view of the fact that the Society is not responsible for the expression of any member relative to this method or technic, and because of the publicity and notoriety given this matter by the press, the following resolutions were passed at a subsequent meeting:

Whereas, At the meeting of the Philadelphia Laryngological Society held at the College of Physicians, January 3, 1928, the removal of tonsils by electrocoagulation or desiccation was advocated by a member during the discussion on "The Tonsil Problem in the Aged"; and

Whereas, This subsequently received widespread and sensational notoriety in the public press and these published articles gave the impression that this method of treatment received the approval of the Society; therefore, be it

Resolved, That the Philadelphia Laryngological Society disclaims all responsibility for the opinions expressed in this discussion on removal of tonsils by electrocoagulation or desiccation; and be it further

Resolved, That the Society does not officially endorse this method of treatment, nor does it approve the publicity given this matter.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

Officers' Department

A. C. MORGAN, M.D., Sc.D., F.A.C.P.
President
2018 Chestnut Street
Philadelphia, Pa.

A CAMPAIGN FOR RIGHTEOUSNESS

"That which is morally wrong can never be politically right."

A moral force is moving the Keystone State which will make its presence known and its influence felt at the primaries on April 24th and the election next November.

The cults have gathered power and influence in sinuous and sedulous manner, covering the past decade and longer, until matters have come to such a pass as to demand a cleaning up of the diploma mills which have run riot in our State, and a showdown as to whether or not this Commonwealth shall permit illegal, unmoral, and mercenary proponents of specious arts to rule, to the detriment of the health and well-being of the people of Pennsylvania.

The State Committee on Public Health Legislation, under the able chairmanship of Dr. Paul R. Correll, of Easton, has instituted a campaign for checkmating these glaring ills and inconsistencies which commands the admiration of the entire personnel of the medical profession and the law-abiding citizens of this State.

We here openly state that the above-named committee has the full support, endorsement, sympathy, and coöperation of the official family of the Medical Society of the State of Pennsylvania. The trustees and councilors will work actively in conjunction with the committees on public policy and legislation in the counties under their jurisdiction.

There is complete harmony existing between the several branches of the medical profession in this State. The Homeopathic and Eclectic State Societies have fully endorsed the movement, and are working with us in splendid manner.

In order that the plans of the State Committee may work smoothly toward successful fulfillment, it is urgently requested that every letter and inquiry shall receive prompt attention, and that reply be sent to Chairman Correll at Easton. There is work for each and every one of us during these coming months, and there must be team action in order to assure success for our cause.

We feel certain that every member of the medical profession will respond to the clarion call.

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade Building
Pittsburgh, Pa.

THE WOMAN'S AUXILIARY IN POLITICAL MOVEMENTS

A question frequently discussed in county medical society circles lately is "What can the woman's auxiliary to the county medical society contribute to the influencing of proper medical legislation?" It is believed that, acting under proper guidance, and after being instructed by county society members thoroughly familiar with the objects of proposed legislation, the members of the auxiliary can be of inestimable value.

Officers of the Medical Society of the State of Pennsylvania who have carefully followed the movements of the Freeman Commission appointed to study medical-practice acts, are convinced that the public are not greatly interested in the outcome of the Commission's studies, and are not closely in sympathy with the views of the medical profession regarding the upholding of high licensing standards for all desiring to practice any branch of the healing art in Pennsylvania. It is believed that this is due largely to the policy of aloofness and isolation which individual physicians and organizations of physicians have adopted in regard to many subjects of general interest so frequently discussed publicly by other groups.

Under the leadership of Dr. Paul R. Correll of Northampton County, chairman of the State Society Committee on Public Health Legislation, our State Society is now committed to a policy of participation in community and state-wide semipolitical and purely political movements. Inasmuch as the expressed legislative objects of our State Medical Society are based purely on an unselfish interest in public health and an interest in the maintenance of the high respect in which the medical profession has been held, it is believed that participation in the educational campaign for the adoption of such legislation is worthy of the best efforts of the members of the Woman's Auxiliary. It is conceded that the wives and daughters of physicians have great opportunities, through their connections with social and semipolitical organizations, to spread the truth regarding the virtues of the Medical Practice Act of 1911, providing, as it does, licensing facilities for all practitioners, regardless of the name under which they seek license or the narrowness of the system of treatment they profess to follow.

Auxiliary members may render a specific service by undertaking to obtain signers, qualified as voters, to the legislative petitions being circulated in hospitals and elsewhere as approved by the Joint Conference Committee of our Society, the Hospital Association, and the Eclectic and Homeopathic State Medical Societies. If Auxiliary members and all others interested will remember, regarding political subjects under discussion, that one's judgment is no better than one's information, then we may expect intelligent study to be followed by valuable guidance imparted to voters and legislators. The *Pittsburgh Medical Bulletin* for March 17th constitutes a safe reference for such study.

LEGISLATIVE NOTES

For the first time in the history of the Medical Society of the State of Pennsylvania, a public health legislative representative from each component society was invited to attend a conference with the Public Health Legislation Committee of the State Society, and the response was most gratifying. The meeting was called to order in the Harrisburg Academy of Medicine, by the president, Dr. Arthur C. Morgan, at 1:35 p. m., Friday, March 9, 1928. Thirty-nine of our sixty-three component county societies were represented by a total of forty-five members, as follows: Allegheny, Armstrong, Butler, Cambria, Carbon, Center, Chester, Clarion, Clearfield, Clinton, Cumberland, Dauphin, Delaware, Elk, Erie, Fayette, Huntingdon, Indiana, Jefferson, Lackawanna, Lancaster, Lawrence, Lebanon, Lehigh, Luzerne, Lycoming, McKean, Mercer, Mifflin, Monroe, Montgomery, Northampton, Northumberland, Philadelphia, Somerset, Tioga, Washington, Westmoreland and York Counties. The Homeopathic and Eclectic State Medical Societies were each represented. Written reports were received from several additional county societies.

A questionnaire had been sent out to each county society regarding the number of illegal practitioners in their respective counties, the number of prosecutions of same, if any, and the candidates for the April primaries, as well as their position in regard to the healing cults. The reports from the representatives of the above counties, called alphabetically, were read.

Chairman Correll of the Committee on Public Health Legislation of our Society emphasized the following: the responsibility of the members of the component county societies in attempting to influence the candidates from their district; as well as the local political leaders, using physicians aligned with the same state leadership as the local leaders; to advise physicians interested or those showing political inclinations to take an interest in local political issues and to subscribe to local county organizations; to have the county society committee on public health legislation cultivate the acquaintance of the members of the county executive committee; and to attempt, through the woman's auxiliary, to appeal to the women members of the county executive committee regarding candidates who are irregular or indifferent to questions pertaining to the health of the public.

Significant events are taking place rapidly under the guidance of Chairman Correll: (a) With the approval of the Board of Trustees of the Medical Society of the State of Pennsylvania, a coalition with the Hospital Association of Pennsylvania was consummated on February 24th, at Harrisburg, which will unite the organizations in an effort to influence, before the primaries of April 24th, the public-health opinion of various legislative candidates. (b) A questionnaire satisfactory to the hospitals and the physicians of the State will be presented to all legislative candidates before April 24th. (c) Petitions fostered by hospitals, welfare organizations, and certain professional societies will be circulated for signature among citizens of voting age, and in time will be appropriately presented to legislative candidates.

The Joint Conference Committe is composed as follows: *Hospital Association*—Mr. Charles S. Pitcher, Henry K. Mohler, M.D., Mr. Maurice Dubin, Mr. Charles Gill, Henry K. Klopp,

M.D., Miss Esther J. Tinsley; *Medical Society of the State of Pennsylvania*—Paul R. Correll, M.D., John D. Boger, M.D., Edgar S. Buyers, M.D., Walter F. Donaldson, M.D., Herbert M. Goddard, M.D., I. Dana Kahle, M.D., George L. Laverty, M.D., Maurice T. Leary, M.D., Arthur C. Morgan, M.D., Henry W. Salus, M.D., Thomas G. Simonton, M.D., William T. Sharpless, M.D.; *Homeopathic State Medical Society*—Harry S. Nicholson, M.D.; *Eclectic State Medical Society*—Merle V. Hazen, M.D.

CONTRIBUTION

Acknowledgment is made of the following contribution to the Medical Benevolence Fund of the Medical Society of the State of Pennsylvania, not previously reported in the Journal:

Woman's Auxiliary of the Allegheny County Medical Society, $267.

The Secretary's office has been notified that the Woman's Auxiliary of the Beaver County Medical Society has appropriated $125 to the Medical Benevolence Fund of the State Society.

CANDIDATES FOR THE 1928 HONOR ROLL

On March 22, 1928, this office had received the annual assessment of 6,006 members; on the same date 1927, of 5,860 members; and on the same date 1926, of 5,468 members. The percentage of 1928 dues received at this office from the component societies on March 22d is as follows:

Carbon, 100%; Center, 100%; Clinton, 100%; Elk, 100%; Juniata, 100%; Monroe, 100%; Montour, 100%; Wyoming, 100%; Lancaster, 97%; Clarion, 96%; Franklin, 96%; Lebanon, 94%; Greene, 93%; Lycoming, 93%; Mifflin, 92%; Montgomery, 92%; McKean, 91%; Clearfield, 91%; Armstrong, 90%; Bradford, 90%; Dauphin, 89%; Erie, 89%; Susquehanna, 89%; Tioga, 87%; Warren, 87%; Washington, 87%; Cumberland, 86%; Butler, 85%; Chester, 85%; Huntingdon, 85%; Potter, 85%; Schuylkill, 85%; Cambria, 84%; Mercer, 84%; Delaware, 83%; Northampton, 82%; Northumberland, 82%; Wayne, 82%; Allegheny, 80%; Columbia, 79%; Bucks, 77%; Somerset, 76%; Adams, 75%; Lehigh, 75%; York, 75%; Luzerne, 74%; Philadelphia, 72%; Jefferson, 68%; Lawrence, 68%; Union, 67%; Westmoreland, 67%; Blair, 59%; Fayette, 59%; Perry, 56%; Berks, 54%; Beaver, 53%; Venango, 53%; Snyder, 50%; Crawford, 49%; Bedford, 45%; Lackawanna, 32%; Indiana, 0; Sullivan, 0.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to March 17:

Allegheny: *New Members*—Louis Willard, Jenkins Bldg., Isadore Pachtman, 2129 Center Ave., John M. Johnston, 4715 Fifth Ave., Walter R. Carey, Magee Hospital, Pittsburgh; Bingham Boyce, Woodville; Edwin R. Raymaley, 1034 South Ave., Frank E. Gray, 700 Mifflin St., Wilkinsburg; A. Karawan, 203 Priscilla Ave., Duquesne; Joseph D. Sarandria, Broadway & Dorham Sts., McKees Rocks. *Transfer*—John J. McCarthy, Pittsburgh, from Washington County Society.

Beaver: *Death*— Henry C. Lacy, New Brighton (Jeff. Med. Coll. '08), January 1, aged 53.

Butler: *New Member*—Frederick P. Purdum, East Brady.

Cambria: *New Member*—D. George Bloom, 238 Market St., Johnstown. *Removal*—David W. Truscott from Portage to South Fork. *Transfer*—James J. O'Connor, Spangler, from Clearfield County Society. *Resignation*—Herman H. Hollingsworth, Clifton, N. J. *Death*—Arthur W. Beatty, Colver (Jeff. Med. Coll. '06), February 29, aged 52.

Chester: *New Members*—Donald G. Davidson, Oakbourne; Glen C. Campbell, West Chester; Rowland S. Phillips, Kennett Square; Norman B. Sewell, West Chester.

Clearfield: James J. O'Connor from Boardman to Spangler (Cambria Co.).

Columbia: *Death*—Samuel B. Arment, Bloomsburg (Jeff. Med. Coll. '77), recently, aged 76.

Dauphin: *Transfer*—George H. Gillis, Wiconisco, from Allegheny County Society. *Removal*—Richard Yoffe from Harrisburg to General Delivery, New Orleans, La.

Delaware: *New Member*—James W. Brice, Packer Hospital, Sayre.

Erie: *New Members*—Delmar Palmer, 2024 Sassafras St., George Becker, 239 W. 11th St., Ralph D. Bacon, 156 W. 8th St., Leonard C. Baldauf, 2527 Reed St., Erie; H. B. Emerson, Lawrence Park. *Removal*—Walter G. Stroble from Erie to Melbourne, Fla.

Fayette: *New Member*—J. R. Carothers, Smock.

Jefferson: *Removal*—Harry B. McGarrah from Tampa, Fla., to 2720 Canal St., Houston, Tex.; Daniel Ritter from Indiana to Arlington Apts., 43d & Locust Sts., Philadelphia.

Lancaster: *New Member*—Paul O. Snoke, 13 Pearl St., Lancaster.

Lehigh: *New Members*—Paul W. Ramer, 921 Linden St., H. Cotter Boyle, 25 S. 10th St., Vorha B. Haffner, 1140 Hamilton St., Allentown. *Removal*—Eugene H. Dickenshied from Allentown to Zionsville.

Luzerne: *New Members*—Olive T. Baskett, George T. Baskett, Retreat; Aloysius J. Cawley, 17 S. Main St., Pittston. *Death*—Walter Lathrop, Hazleton (Univ. of Penna. '90), February 10, aged 60.

Lycoming: *New Members*—Paul A. Rothfuss, 42 E. Market St., J. Sidney Hoffa, 1124 E. Third St., Williamsport. *Removal*—Carl G. Renn from Lairdsville to Hughesville. *Deaths*—Joseph M. Corson, Hughesville (Jeff. Med. Coll. '92), March 2, aged 60; Millard L. Raemore, Williamsport (Coll. Phys. & Surg., Balto. '15), March 12, aged 39.

Monroe: *Transfer*—Henry N. Thissell, Bushkill, from Philadelphia County Society.

Montgomery: *New Member*—Archibald Morrisson, Wayne.

Montour: *New Member*—George W. Brose, State Hospital, Danville. *Resignation*—Robert A. Keilty, Washington, D. C.

Northumberland: *New Member*—Ralph W. E. Wilkinson, Trevorton.

Philadelphia: *New Members*—Philip Fiscella, 2011 S. 18th St., Edwin D. Lunn, 928 Clinton St., Philadelphia. *Reinstated Members*—Daniel J. Kennedy, 2501 S. 19th St., Ellis M. Spoont, 2445 S. 6th St., Lorne E. Hastings, 7212 Pine St., Upper Darby, Philadelphia. *Deaths*—Eugene L. Van Sant (Jeff. Med. Coll. '84), February 15, aged 69; Charles J. Watson (Jeff. Med. Coll. '16), February 9, aged 37.

Venango: *Reinstated Member*—Henry B. Gaynor, Polk.

Washington: *New Members*—William R. Vernon, Ellsworth; John S. Oehrle, 408 Marne Ave., Monongahela; Clarence J. McCullough, Washington; James A. Martin, Avella; Fernand N. Parent, First National Bank Bldg., Charleroi.

York: *New Members*—James S. Seitz, Church St., Glen Rock; Robert R. Stoner, Glenville.

Errata: In the February Journal the following were incorrectly reported as new members: Clearfield—Nora McNerney Logan, Du Bois; and Philadelphia—Albert A. Fine, 5946 N. Fifth St. Dr. McNerney was married and became Dr. Logan. Dr. Fine should have been Dr. Finn and is an old member. J. E. Alleman was also erroneously reported in March as a new member of Erie County Society.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since February 14. Figures in first column indicate county society numbers; second column, state society numbers:

1927				
Feb. 15	Indiana	58	7748	$5.00
24	Venango	54	7749	5.00
1928				
Feb. 14	Lycoming	71-75	3980-3984	25.00
	Clearfield	25-36	3985-3996	60.00
	Bedford	8	3997	5.00
	Delaware	84-85	3998-3999	10.00
15	Jefferson	1-23	4000-4022	115.00
	Cumberland	26	4023	5.00
	Columbia	21-24	4024-4027	20.00
	Mifflin	20	4028	5.00
16	Clearfield	37-40	4029-4032	20.00
	Franklin	45-49	4033-4037	25.00
	Greene	23-25	4038-4040	15.00
	Mercer	25	4041	5.00
	Adams	19	4042	5.00
17	Huntingdon	20-27	4043-4050	40.00
18	Armstrong	26-35	4051-4060	50.00
	Mifflin	21	4061	5.00
	Erie	106-113	4062-4069	40.00
20	Allegheny	4, 18, 19, 827-910	4070-4156	435.00
	Montour	28-31	4157-4160	20.00
	Warren	25-28	4161-4164	20.00
	Mifflin	22	4165	5.00
	Mercer	26-27	4166-4167	10.00
	Cambria	78-101	4168-4191	120.00
	Somerset	25-30	4192-4197	30.00
	Luzerne	105-123	4198-4216	95.00
21	Dauphin	102-115	4217-4230	70.00
	Potter	1-9	4231-4239	45.00
	Butler	1-33	4240-4272	165.00
23	Mercer	28-29	4273-4274	10.00
	Lehigh	24-60	4275-4311	185.00
	Franklin	50-51	4312-4313	10.00
	Venango	14-17	4314-4317	20.00
	Warren	29-33	4318-4322	25.00
24	Chester	1-33	4323-4355	165.00
	Northumberland	42-48	4356-4362	35.00
	Lycoming	76-80	4363-4367	25.00
	Clearfield	41-46	4368-4373	30.00
27	Luzerne	124-155	4374-4405	160.00
	Lancaster	19-45	4406-4432	135.00
	Warren	34-36	4433-4435	15.00
28	Schuylkill	131-140	4436-4445	50.00
	Carbon	1-21	4446-4466	105.00
	Mercer	30-38	4467-4475	45.00
	Clearfield	47-50	4476-4479	20.00
	Washington	14-106	4480-4572	465.00
	Monroe	18-19	4573-4574	10.00
	Lycoming	81-85	4575-4579	25.00
	Adams	20-21	4580-4581	10.00
	Delaware	86-89	4582-4585	20.00
29	Mercer	39	4586	5.00
Mar. 2	Columbia	25-26	4587-4588	10.00
	Center	23-24	4589-4590	10.00
Mar. 2	York	81-102	4591-4612	$110.00
	Northumberland	49-52	4613-4616	20.00
	Somerset	1, 4, 18, 32	4617-4620	20.00
	Wayne	21-22	4621-4622	10.00
	Lancaster	46-74	4623-4651	145.00
	Mercer	40-42	4652-4654	15.00
	Montgomery	138-148	4655-4665	55.00
3	Fayette	26-74	4666-4714	245.00
	Mifflin	23	4715	5.00
	Armstrong	36-40	4716-4720	25.00
6	Westmoreland	57, 61-88	4721-4749	145.00
	Clarion	19-24	4750-4755	30.00
	Franklin	52-53	4756-4757	10.00
	Potter	10-11	4758-4759	10.00
	Mercer	43-47	4760-4764	25.00
	Lawrence	27-38	4765-4776	60.00
	Venango	19	4777	5.00
8	Luzerne	156-221	4778-4843	330.00
	Crawford	1-12	4844-4855	60.00
	Lycoming	86-88	4856-4858	15.00
	Lancaster	75-111	4859-4895	185.00
9	Lancaster	112-119	4896-4903	40.00
	Erie	114-131	4904-4921	90.00
	Mercer	48-49	4922-4923	10.00
	Tioga	4-24	4924-4944	105.00
12	Lycoming	89-98	4945-4954	50.00
	Cambria	102-127	4955-4980	130.00
	Dauphin	116-131	4981-4996	80.00
	Beaver	22-47	4997-5022	130.00
	Mercer	50-51	5023-5024	10.00
	Clearfield	51-54	5025-5028	20.00
	Columbia	27	5029	5.00
	Northumberland	53	5030	5.00
12	Warren	37	5031	5.00
	Allegheny	911-1045	5032-5166	675.00
	Philadelphia	1208-1528	5167-5487	1605.00
15	Lehigh	61-96	5488-5523	180.00
	Mercer	52-54	5524-5526	15.00
	Cumberland	27-29	5527-5529	15.00
	Huntingdon	28-29	5530-5531	10.00
	Venango	20-21	5532-5533	10.00
	Chester	34-60	5534-5560	135.00
	Mifflin	24-25	5561-5562	10.00
	Lancaster	120-131	5563-5574	60.00
	Delaware	90-94	5575-5579	25.00
16	Clearfield	55-56	5580-5581	10.00
	Warren	38	5582	5.00
	Erie	132	5583	5.00
	Crawford	13-17	5584-5588	25.00
	Lycoming	99-104	5589-5594	30.00
	Erie	133-138	5595-5600	30.00
17	York	103-108	5601-5606	30.00
	Venango	22-23	5607-5608	10.00
	Mercer	55-57	5609-5611	15.00
	Montgomery	149-154	5612-5617	30.00
19	Washington	107-121	5618-5632	75.00
	Northampton	79-112	5633-5666	170.00
	Cumberland	30-31	5667-5668	10.00
	Tioga	25	5669	5.00

COMMITTEE ON PUBLIC HEALTH LEGISLATION

Paul R. Correll, M.D., *Chairman*
Easton, Pa.

THE LEGISLATIVE SITUATION

Your Committee of the State Society on Public Health Legislation begs to present a résumé of certain of its activities to date.

We are preparing to meet any and all contingencies that may arise as the result of an unfavorable opinion on the part of the Freeman Commission. It appears difficult, from our viewpoint, to expect of the Commission, with

the many interests represented in its personnel, a report of an impersonal character in which the results of their deliberation will have been based upon a correlation of the true value of the medical profession to the economic and social fabric of society at large in the Commonwealth of Pennsylvania. Governor Fisher has directed this Commission to report on matters pertaining to the healing art in our State. This cannot be adequately done in the time alloted. Furthermore, the Commission includes a number of cultists whose purpose is and must be to activate and improve their own social and professional standing.

It is your obligation individually to carry on an active campaign of education in your community each day. Your candidates for election to the State Senate and House of Representatives should be kept constantly apprised of the ever-changing facts as they develop, so that they may be cognizant in detail of the entire situation. With this activity on your part, your State Society, through this Committee, will carry on an active campaign to the public through the agency of the public press, and will attempt to fortify your arguments by statements of facts based upon a comprehensive study.

You will realize that the basic thoughts which underlie our defense of the present health laws are fundamentally as follows: (1) That the present law, being adequate and just as a standard, must be perpetuated in the interest of the people of our Commonwealth. (2) That there must be enacted no legislation which will develop license for those inadequately and improperly trained, and which would, thereby, create a substandard doctor.

These thoughts represent in all truth and sincerity the present high plane elected by the profession of medicine in the development of a proper defense of public-health laws. Our present statutes in the interest of public health are the result of the natural growth of scientific medicine over a long period of years, brought to its present high point of efficiency by virtue of a proper and just interest which we as guardians have for the people of our State. No improvement or change in public-health laws in the last decades have been of any special value to the individual licensed healer. Health laws should be and are the result of a fundamental desire and purpose to protect the people. They have not been nor should they be developed for the purpose of benefiting any individual class or type of healer.

Kindly acquaint yourself with the entire facts. Realize that our sovereign State is assailed by those who desire to invalidate good law and in its place put laws of a retrograde character. In short, they desire to set aside that which is well tried and good for that which is untried, unsound, and unsafe for the people of your community.

COMMITTEE ON SCIENTIFIC WORK

O. H. Perry Pepper, M.D., *Chairman*
Philadelphia, Pa.

THE PROGRAM FOR THE MEDICAL SECTION

The program for the meetings of the Medical Section in Allentown, October 1 to 4, 1928, has been planned primarily with the interests and needs of the physician practicing general medicine in mind, but it is believed that the specialist in internal medcine will find much of interest and profit in the papers presented.

The symposium plan, having been successful for the past three years, will be continued, each subject being in charge of a principal to whom, with his associates, will be allotted forty minutes. This will be followed by a fifteen-minute general discussion from the floor.

A general discussion of present-day diagnosis with an evaluation of the various methods at our disposal, old and new, will be presented by the medical director of a large diagnostic clinic. Another hour will be devoted to the differential diagnosis of abdominal pain. The principal and associates will take up the various causes of pain other than diseases of the abdominal viscera. Diseases of the lung will be represented by a symposium regarding some aspects of the diagnosis of pulmonary tuberculosis. This will be presented by one of our best-known workers in tuberculosis, having for his associate an x-ray man with a large experience in this field. In recent years much time has been assigned to the diagnosis of heart disease. This year, one hour will be devoted to a consideration of the treatment, both preventive and curative. The gastro-intestinal subject will be that of chronic duodenal stasis, the clinical features of which constitute a syndrome which has only recently been brought to our attention. Endocrine medicine has only too often been a field for the visionary and the charlatan; this field will be represented in the 1928 program by a consideration of some of the definite conditions frequently seen in clinical medicine, conditions concerning which something is actually known. There being no separate section for neurology in our State Society, it has been thought advisable to place on our program a discussion of a neurologic subject. Epilepsy has been selected,

and the title of the opening paper will be, "The Present-Day Conception of the Epileptic Problem." A popular feature of the program in recent years has been the presentation of case reports. This plan will be continued, and eight 5-minute case reports will be presented, with the usual time allowed for general discussion.

The guest speakers for the Medical Section will be Dr. Henry Christian, of Boston, who will present a paper on some aspect of nephritis, and Dr. R. W. Scott, of Cleveland, who will take up a heart subject. Dr. Christian is exceptionally well known in Pennsylvania, and those who have heard him speak will be attracted to Allentown by his presence. Fellows of the American College of Physicians who attended Dr. Scott's clinic during the Cleveland Session of that organization will vouch for him as being a forceful and inspiring speaker.

CALL FOR VOLUNTEER CASE REPORTS

FOR THE

ALLENTOWN SESSION OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

OCTOBER 1 TO 4, 1928

GENERAL MEETING—8 Case Reports of 5 minutes each.

SECTION ON MEDICINE—8 Case Reports of 5 minutes each.

SECTION ON SURGERY—8 Case Reports of 5 minutes each.

SECTION ON PEDIATRICS—8 Case Reports of 5 minutes each.

SECTION ON EYE, EAR, NOSE AND THROAT—5 Case Reports of 10 minutes each.

SECTION ON UROLOGY—8 Case Reports of 5 minutes each.

For publication in the ATLANTIC MEDICAL JOURNAL, the 5-minute case reports will be limited to 1,000 words, and the 10-minute case reports to 1,500 words.

In the General Meeting and Sections on Medicine, Surgery, and Pediatrics, 15 minutes will be allowed for general discussion of these case reports, and 5 minutes for discussion in the Eye, Ear, Nose, and Throat Section.

Volunteer papers, with the titles and abstracts, will be considered by the Committee on Scientific Work on or before May 1, 1928, but the Committee reserves the right to reject a paper if it is not deemed of sufficient merit, or should it not fit in with the skeleton program tentatively planned at its February meeting.

Authors of papers and case reports should send in their titles and abstracts at once to the secretary of the section in which they want to appear, or to the Chairman of the Committee on Scientific Work.

GENERAL MEETINGS: Dr. O. H. Perry Pepper, Medical Arts Building, Philadelphia, Pa.

SECTION ON MEDICINE: Dr. Elliott B. Edie, 701 Citizens Title & Trust Bldg., Uniontown, Pa.

SECTION ON SURGERY: Dr. Damon B. Pfeiffer, 1822 Pine St., Philadelphia, Pa.

SECTION ON EYE, EAR, NOSE, AND THROAT: Dr. John B. McMurray, Washington, Pa.

SECTION ON PEDIATRICS: Dr. J. Gibson Logue, First National Bank Bldg., Williamsport, Pa.

SECTION ON DERMATOLOGY: Dr. Lester Hollander, Jenkins Arcade, Pittsburgh, Pa.

SECTION ON UROLOGY: Dr. Benjamin A. Thomas, 1900 Spruce St., Philadelphia, Pa.

COMMITTEE ON HOTELS

F. B. HARDING, M.D., *Chairman*
941 Hamilton Street
ALLENTOWN, PA.

HOTEL RESERVATIONS FOR THE ALLENTOWN SESSION

In order to avoid possible disappointment at the Allentown Session of the Medical Society of the State of Pennsylvania, to be held October 1st to 4th, 1928, hotel reservations should be made at this time. These reservations may be made direct, but better accommodations will be procured through the chairman of the Committee on Hotels, whose name and address appear at the head of this article. A thousand visitors can be easily cared for at the Allentown hotels, and when the hotel facilities are exhausted, a number of attractive private homes will be thrown open in the neighborhood of the group of meeting halls. If there is further need for accommodations, members with automobiles will find comfortable and attractive hotels in Bethlehem—which adjoins Allentown on the east. No one, therefore, need miss this meeting through lack of hotel facilities. Nevertheless, we would urge that reservations be made early by those who desire the choice locations.

A report was current that hotel rates would be advanced during the week of our annual session. This we are pleased to state will not be the case. Rates have been secured from the various hotels, and are published below, together with other pertinent information.

HOTEL TRAYLOR, Hamilton and Fifteenth Streets, has been completely filled by this time, so that it will be useless to apply for further reservations there.

AMERICUS HOTEL, Sixth and Hamilton Streets, is Allentown's newest hotel. It is very attractive, and

easily accessible by trolley to the various meeting halls. This hotel has assigned 225 rooms with private bath to the use of our members and guests, each room being equipped to take care of two people. The rates will range from $4 and $5 for one person to $6 and $7 for two people in a room. The hotel maintains a grill room and a cafeteria.

Hotel Allen, located on the city square, and easily accessible by trolley to the meeting halls, will have 175 rooms available at the following prices: Single, with running water, $2-$2.50; double, with running water, $3.50-$4; single, with bath, $3-$4; double, with bath, $5-$6. Club breakfasts are served at a price of 35c. to 75c., table d'hôte luncheon at 75c., and dinner at $1.25.

Hotel Lenox, 34-36 North Eighth Street, submits the following schedule of prices: Single rooms, $1.50-$2; with bath, $2.75; double rooms with running water, $3-$4; with bath, $4.50-$5.

A more complete listing will appear next month.

County Society Reports

ALLEGHENY—FEBRUARY

At the meeting held February 21st, the following papers were presented:

Dr. H. H. Bornscheuer: Progress in Plastic Surgery.—While plastic surgery dates back to Celsus in 25 B. C., it remained for the reconstruction period of the World War to produce the recent advances now utilized. Perthe introduced the delayed pedicle flaps during this period. The histologic basis of nourishment of the whole thickness of grafts was developed scientifically by J. Starge Davis, Ferris Smith, and others. Esser's modification of the Thiersch graft which is especially valuable in eye surgery was introduced. There has been marked progress in nose surgery, so that today better cosmetic results are obtained. Cleft palate, ear defects, and even contractures about joints are now being treated by means of modified pedicle flaps. In fact, the development of this field of surgery is in answer to a demand for this specialized type of work, and today it is recognized as a regular branch of surgery in all modern hospitals.

Dr. F. W. Grayson: Dietetics.—Our knowledge of biologic chemistry and physiology is rapidly increasing, and since the science of dietetics is founded on these branches, we are learning what the well and the sick should eat. Unfortunately, most physicians both know and care too little about diet.

In the early days of nutritional studies, the chemistry of foods was studied in an endeavor to discover the essential food requirements of the human body. For a long time these were believed to be certain amounts of protein, carbohydrate, fat, mineral matter, and the like; but experimental feeding based on this belief did not work out as it should, and the explanation came when the vitamins were discovered. Proteins are still considered the tissue builders, and carbohydrates the main source of energy, while fats supplement the rôle of carbohydrates, and mineral salts are necessary for healthy skeleton maintenance. From meat, eggs, fish, milk, cheese, peas, and beans the most protein is derived. Fat is obtained from butter, fat meat, cream, lard, and olive and other oils. The carbohydrate comes from cereals, potatoes, vegetables, and fruits, and the "roughage" is supplied by salads, bran, cabbage, and string beans, which furnish some of the "spark plugs" of our diet. When it is necessary, or when they are abundant, fresh fruits and vegetables may partly replace cereals, sugars, and even meat. From present knowledge, it appears that the vitamins are chemical substances easily destroyed or impaired by heating, although they usually exist in many foods.

The World War taught the American to eat more simply and economically. For diseases such as diabetes and gout exact rules for proper diet have been worked out, but the ideas concerning kidney diseases are less clear. The general tendency of the modern diet is toward the excessive use of starch foods and the avoidance of salads, fruits, and leafy vegetables which are necessary to balance the diet. Simple dishes are better than puddings, pies, cakes, candies, and sugar. Cooked fats retard digestion, while well-baked starch foods like bread and rolls are better than griddle cakes, waffles, and hot breads. Condiments and other stimulants to the appetite are not often necessary, and therefore should be used sparingly. From present knowledge, it may be said that a liberally arranged lacto-vegetarian diet is preferable, and if this is broadly interpreted, it will be found not far from the usual American diet.

Dr. Voight Mooney: Painful Backs.—Although not a new subject, a review of the fundamental factors causing pain in the back always arouses interest. An anatomic understanding of the sacro-iliac joint, the variations of the last lumbar vertebræ, and the distribution of the lumbosacral plexus will aid in the interpretation of the cause of pain low in the back.

The sacro-iliac joint is not a synchondrosis, but partakes of the nature of a true and half joint. It may therefore be expected to be affected by infections and toxic and mechanical agents, just as is a true joint. The lumbosacral joint has a wider range of movement than any of the other joints between contiguous, dorsal, or lumbar vertebræ. This is due to the articular processes which permit of more rotation on a vertical axis. The transverse processes of the last lumbar vertebræ have numerous variations, and represent the following structural defects: (1) They may be wider than normal, thus preventing the average range of motion. (2) They may articulate with the ilium, with the same mechanical blocking and strain. (3) They may simply impinge on the sacrum or ilium. The distribution of the lumbosacral plexus plays an important rôle, due to irritation from the bony structure to the adjacent nerves. Osteo-arthritis of the spine is one of the most frequent causes of low back pain.

Since pain in the back and legs may be produced by irritation of any portion of the nervous arc, it is, therefore, most important that an understanding of the anatomic and pathologic processes be studied in order successfully to diagnose, treat, and give a prognosis to patients complaining of painful backs and weak legs.

L. G. Beinhauer, M.D., *Reporter.*

BERKS—FEBRUARY-MARCH

At the meeting held in Medical Hall on February 14th, Captain Charles McNair discussed briefly the requirements for entrance to the Medical Reserve Officers Training Corps, and described the rules and regulations governing commissioned officers.

Dr. Joseph V. Klauder, Philadelphia: Some of the Commoner Aspects of Skin Diseases, and their Relation to the General Practitioner.—Ringworm, as a rule, when first seen by the physician, has the appearance of an isolated, superficial, nonitching, noninflammatory, scaly patch, with sharply marginated raised border. It

commonly occurs on scalp, palms of hands, soles of feet, and in the axilla. It is usually disseminated through mobilization, the Y. M. C. A., country clubs, and other organizations. The diagnosis can be established by immersing a smear from the vesicle in a 30-per-cent solution of sodium hydroxid, and examining under the microscope ten hours later. For depilatory effect during treatment, the x-ray may be used. The best drugs are sodium hyposulphite or a three-per-cent solution of salicylic acid in alcohol. This condition must be differentiated from eczema, which is superficial, inflammatory, not sharply marginated, and which produces quite severe itching; and from tertiary skin lues, which is a unilateral, copper-colored, noninflammatory, nonitching, infiltrated lesion of greater chronicity.

Epithelioma must be differentiated from leukoplakia caused by smoking; from arsenical keratosis; from sarcoma, which is hard and rapid-growing; from tertiary lues, which is slow in development and clears up under specific treatment; from carcinoma, by microscopic section; and from lupus, which occurs in the young and is rapidly destructive. Many scars, especially keloids, result in this type, and occasionally a nevus. The rodent ulcer, or basal-cell type, must be treated before involvement of lymph nodes which occurs comparatively late. The treatment of choice is electrodesiccation, x-ray, and radium.

Pigmented moles, if coal-black or slate-colored, ought to be removed. Melanoma must be destroyed. Irritants accelerate growth, going on to carcinoma or sarcoma. The glands should be treated with x-ray and radium after electrodesiccation of the lesion. Hemangiomas and nevi are also best treated by electrodesiccation.

Other acute erythematous conditions of external origin may be caused by dyestuffs, fur, cosmetics, novocain, primrose plant, and poison ivy, especially if the skin is already sensitive through some constitutional disease such as diabetes or some local medication such as iodin. Overtreatment is more harmful than no treatment. Sulphur is especially irritating, and should be used only in scabies. Use boric-resorcinol compresses for acute cases. Internally, calcium lactate very often gives excellent results as an adjunct.

Pityriasis rosea is a self-limiting inflammatory disease of the skin, characterized by rose-colored erythematous patches occurring chiefly on the trunk. The duration is about four to six weeks. It is much more common in the fall and spring.

Drug eruptions are commonly caused by copaiba, atropin, arsenic, phenolphthalein, bromids, and iodids.

Luetic skin lesions are very common. The chancre is an innocent-looking carmine-colored lesion whose edges are smooth with the surrounding skin. Ulceration with subsequent infection makes it difficult to diagnose. The edges are usually indurated. There is no free pus. It does not heal, and is not very sore. Under dark-field illumination, positive results are secured early. The Wassermann is positive after the first or second week. The secondary lesion is highly contagious, generalized, symmetrical, polymorphous, does not itch, and is often kidney-shaped. At first it is ulcerative, and later condylomatous. The mucous patch may be rubbed off, leaving a raw, bleeding surface. The tertiary lesions are usually isolated nodules, half-moon shaped, with punched-out center, and usually are clinically active in only one tissue. Acne rosacea may at times simulate the tubercular syphiloderm. The syphilitic ulcer is usually found on the upper third of the leg, while the ordinary leg ulcer will have a punched-out, erythematous appearance, and will be surrounded by varicose veins. These usually occur in the lower half of the leg.

Bazin's disease in children is constitutional tuberculosis. One area heals as another begins.

At the meeting on March 13th, the local tuberculosis association demonstrated the tuberculin reaction on eight children between the ages of two and ten. Dr. F. Maurice McPhedran, of Phipps Institute, spoke on "The Diagnosis of Tuberculosis in its Preclinical Stage." With the aid of lantern slides and roentgenograms, he showed that while many cases of tuberculosis can be arrested even after the onset of symptoms, the best chances for recovery are among those treated before any symptoms occur. The periodic physical examination of every individual in a family and an x-ray study of the chest will many times reveal a case in its incipiency. The tuberculin reaction is even better than the two preceding methods of diagnosing, for it may be positive several months before there is any demonstrable lesion. A negative tuberculin reaction in a child known to have tuberculosis indicates rapid retrogression. Drs. R. M. Alexander, F. D. Funk, and L. F. Wagner joined in the discussion.

Pearl E. Hackman, M.D., *Reporter.*

BLAIR—FEBRUARY

The February meeting was held on Tuesday, the 28th, in the Altoona Hospital. Dr. George E. Alleman discussed some of the new developments in x-ray technic and diagnosis.

Dr. Alexander H. Colwell, Pittsburgh: Periodic Physical Examinations in the Apparently Healthy.—The idea of periodic health examinations was not originated by doctors, but by the people themselves. A few years ago it was introduced by a large insurance company which offered free examinations yearly to heavy policyholders. It is hoped that by periodic examinations it will become possible to discover nearly all serious diseases in their very early stages. Not enough is known about the early symptoms of disease at the present time, as nearly all the textbooks deal only with the later symptoms. Data collected from thousands of such examinations might make a revision of all textbooks necessary, so that the very early symptoms might be stressed and given as much importance as the later ones.

Not every doctor is suited to such work by temperament or inclination; it is best done by a general practitioner. The equipment required is very simple, and the work can be done with a pair of scales, head light, stethoscope, otoscope, ophthalmoscope, blood-pressure apparatus, and a few tongue depressors. In other words, with the instruments that every physician ordinarily should have in his office.

The doctor should aim to sell the idea of periodic health examinations to his own patients, and make them realize that he is not doing it with an idea of financial benefit to himself, but is really rendering them a great service.

R. V. Silknetter, M.D., *Reporter.*

BUTLER—MARCH

On Tuesday evening, March 13th, the County Society and the Woman's Auxiliary held a banquet at the Sterling Club, Butler, at which fifty were in attendance. Dr. Walter F. Donaldson, Pittsburgh, secretary of the Medical Society of the State of Pennsylvania, was the guest of honor, and spoke on the work of the State Society in combating the demands of the chiropractors. He com-

mended the efforts of the Auxiliary, and called upon its members for further work in education of the laity and circulating petitions. Dr. J. B. F. Wyant, Kittanning, councilor for the ninth district, also spoke on chiropractic problems.

Max S. Nast, M.D., *Reporter.*

CAMBRIA—FEBRUARY-MARCH

At the meeting on February 9th, Dr. S. A. Savitz, associate professor of therapeutics of the Medical School of Temple University, Philadelphia, addressed the society on the subject of "Arthritis." Dr. Savitiz emphasized the importance of making a correct etiologic diagnosis in all these cases, and made valuable suggestions on the handling and treatment of the disease.

At the meeting on March 8th, addresses were made by Drs. R. S. Dinsmore and B. H. Nichols, of the Cleveland (Ohio) Clinic.

Dr. Dinsmore: Diagnosis and Treatment of Acute Surgical Conditions of the Stomach, Appendix, and Gall-Bladder Regions.—For a number of years, operations of choice on gastric ulcers have varied frequently, and selective operations on ulcers of the stomach and duodenum are still in a state of uncertainty which emphasizes the fact that such operations are not entirely satisfactory. However, all the best surgeons agree unanimously that acute perforating ulcers of the stomach or duodenum should be opened up as quickly as possible, sewed up by inverting the edges, covered with omentum, a small drain placed in the lower part of the abdomen, and the wound closed. Excision of such ulcers and gastro-enterostomies should therefore be avoided.

Appendicitis is one of the most difficult diagnoses to make under certain circumstances, the only constant indications being pain and localized tenderness. Eleven cases with gangrenous appendices in which the temperature and leukocyte count were normal were probably of the obstructive type. The diagnosis of chronic appendicitis should be made only after a thorough investigation, because frequently some other condition is present. For example, in a third of the cases in which pyelograms are made in the Cleveland Clinic, the appendix had previously been removed without relief of symptoms.

The surgeon never need apologize for draining an acutely infected gall bladder when a patient's general condition is not good. It is better to have a living patient with a drained gall bladder than a dead one with a gall bladder removed.

Dr. Nichols (presenting pictures of gall stones x-rayed after removal in a number of gall-bladder cases): The x-ray showed a shadow of practically ten per cent of the gall stones, whereas kidney stones taken under the same circumstances cast a shadow in ninety per cent of cases. In order to produce an x-ray shadow, it is necessary for gall stones to be coated with calcium, and it is only in cases of infected gall bladder that calcium deposits are found in the gall stones. Therefore, when a shadow appears in the x-ray, it is natural to assume that the gall bladder is diseased. However, there are cases of cholesterin stones in perfectly normal gall bladders.

For cholecystography, we are at present using sodium tetraiodophenolphthalein in the form of an emulsion given with a little grape juice. This emulsion is acid, and does not break up until it reaches the alkaline juices of the intestinal tract. It has the advantage of being absorbed more readily than the keratin-coated pills and capsules which were formerly used. After it is absorbed, this dye goes to the liver, and is secreted with the bile and concentrated in the gall bladder, provided its wall is normal. A normal gall bladder, therefore, has the function of concentrating this dye, and a shadow is cast by the gall bladder in the x-ray. If this organ is not functioning normally, it will not concentrate the dye in sufficient quantities to produce a shadow.

Following is a simple and practical method of differentiating between gall stones and kidney stones. A picture is taken of the gall-bladder and kidney region with the patient lying flat on the back, and another with the patient lying flat on the abdomen. In the latter picture, a stone in the gall bladder will be nearer the x-ray film, and hence will produce a smaller shadow than is produced when the patient is lying on the back. When the plates are compared, if the one taken with the abdomen pressed against the x-ray film shows the smaller shadow, probably gall stones are present. If the shadow is smaller in the dorsal exposure, the stone is probably a renal calculus.

Horace B. Anderson, M.D., *Reporter.*

DELAWARE—FEBRUARY

The February meeting was held at the Chester Hospital, with President F. R. Nothnagle presiding. Dr. W. F. Wood presented and discussed *Bulletin No. 2,* issued by the Committee on Public Health Legislation.

Dr. John J. Gilbride, of Philadelphia, addressed the society on "The Diagnosis and Treatment of Gastric and Duodenal Ulcers," outlining the importance of histories, symptoms, and laboratory aids in the diagnosis of these conditions, and laying stress on the aid given by x-ray and fluoroscopic studies, showing numerous lantern slides of his cases. He stated that both conditions should first receive medical treatment and, if this fails, then resort should be had to surgery. Indications for surgical treatment are: pyloric obstruction of the severe type, hemorrhage, and perforation. Postoperative medical treatment should be followed carefully.

Discussion by Drs. W. E. Egbert, J. W. Wood, G. L. Armitage, and I. I. Parsons brought out questions as to the time element in differentiation between ulcer and carcinoma; the effect of a peristaltic anomaly on the diagnosis of ulcer; treatment of a severe hemorrhage; and the etiology of ulcers. Dr. Gilbride answered that x-ray and fluoroscopic studies may reveal other conditions present which may influence the prognosis as to complete relief of symptoms for the patient—such conditions as a dilated and ptosed colon, or the presence of vertebral disease. The percentage of severe hemorrhage in these conditions is not high, but in those with occult bleeding the percentage is high. In his experience he has seen only two deaths from the hemorrhage of duodenal ulcer. The part that time plays in these cases is variable. Dr. Gilbride has seen cases in which the symptoms were very acute, and in other cases the symptoms were of long duration, so that one cannot state whether the lesion is an ulcer or cancer from the history. In a laboring man with gastric symptoms, the deduction can be made that the case is cancer or ulcer, and not a neurosis. He also warned not to make a diagnosis of hyperacidity, for there must be some organic condition accounting for it. Twenty per cent of the cases were relieved by operation. Most cases could be treated medically, and the patient should be given the benefit of the doubt by instituting medical treatment first. He, himself, likes to feed his patients on a high nitrogenous diet rather than on a high carbohydrate

diet, which usually causes remissions in these conditions. As to the etiology, not much is known.

Dr. Gilbride was made an honorary member of this society.

Albin R. Rozploch, M.D., *Reporter.*

ELK—MARCH

The regular meeting was held in Ridgway on March 8th. Dr. Charles D. Koch, Deputy State Superintendent of Public Instruction, Harrisburg, Pa., gave a résumé of the activities of the Board of Medical Education and Licensure.

So far as conviction of lawbreakers or closing up of cult schools is concerned, we cannot see that the Board has done anything worth while. There are apparently more cultists now than in 1925. Some of the so-called schools seem to have died a natural death, but so far as we can gather, all we have is some legal opinions.

A dollar a year is not going to change the mental attitude of the average district attorney, or the average juror, and it will not go very far toward changing public opinion. We were not very keen for this "Boston Tea Tax" at the first, and we are less keen on it now, if that were possible. If it is thought necessary to invoke the aid of the political powers that be, ten or twelve thousand dollars a year is too paltry a sum even to think about. If the State is to be rid of illegal practitioners, etc., by a special tax on the regular profession, let us make the sum worth while and handle the job ourselves. Practical politics is a "messy" thing at best, but if it must be that, let's see the ante of the cultists and raise them at least once, or cash in and go home. Let the public have what it thinks it wants.

Samuel G. Logan, M.D., *Reporter.*

FAYETTE—MARCH

Dr. C. C. Wooley, neurologist, of Pittsburgh, spoke on "Nervous and Mental Diseases" before the county society in the medical hall of the hospital at Uniontown on March 1st. The meeting was well attended.

C. F. Smith, M.D., *Reporter.*

LUZERNE—JANUARY-FEBRUARY

A regular meeting was held on January 26th, in the Medical Building, with President M. B. Ahlborn in the chair. The essayist was Dr. John F. Erdmann, professor of surgery in the New York Post-Graduate Hospital and Medical School.

Dr. Erdmann: The Surgical Consideration of Ulcer of the Duodenum and Stomach.—Gastric and duodenal ulcers may be classified as perforated, perforating of calloused or noncalloused types, and mucosal or follicular. In the perforated type, the earliest possible operative procedure is indicated. Operation is also indicated in the perforating calloused type after a fair trial of dietary and medicinal treatment. In the perforating noncalloused type, the lesion is amenable to treatment in many instances.

X-ray examination at intervals, associated with medical and dietary attention, is of special value both as to observation of repair or nonrepair and as a definite signal whether or not to interfere surgically. We are indebted to the gastro-enterologists for the relief that patients can be afforded by proper medication, dietary control, etc., and admit that they produce their proportion of cures. Barring the occasional repeated-hemorrhage cases, their mortality should be low.

I do not operate, and have not done so for some years, in any ulcer case, except the perforated and the positively obstructed with dilatation and retention, those of repeated hemorrhage and those suspected of malignancy, without the patients producing all x-ray evidences and going through more than one thorough gastro-enterologic treatment and observation. These patients must be examined thoroughly for gall-bladder and appendicular association.

The excisable ulcer of the stomach may be dealt with by the cautery-and-excision method of Balfour, or by the simple flap excision with closure by suture. I have never added a gastro-enterostomy to this type of operation, as I have never felt the necessity for it, nor can I recall any of my patients so treated who did not make a smooth recovery. The indurated and infiltrating ulcer demanding resection of half or more of the stomach is treated by one of several operations. Personally, I prefer the Polya method.

The operation of Pfinisterer for duodenal ulcer, as strongly advised by Berg and Lewisohn of New York at the present time, does not convince me enough to accept their dictum. Barring all questions of mortality in these various operations, I should still be inclined to operate as follows: resection only in ulcers of large size, markedly infiltrated, and where a question of malignancy arises. I believe that, until further proof, gastro-enterostomy, with its records of cure, improvement, etc., should be the operation of choice in the hands of the general operator. With the knowledge of the gastric analyses in pernicious anemia, one must feel that the rendering of the contents of the stomach totally anacid may be productive of pernicious anemia.

After the surgical procedure (for repair of marginal ulcer) and after his discharge, the patient is referred to a gastro-enterologist for further care and attention. I do not feel, when I have discharged the patient, that he is well, but that his abnormal physical and mechanical condition has been repaired.

At the meeting held in the Medical Building on February 15th, with President M. B. Ahlborn in the chair, Dr. A. J. Cawley, of Pittston, was elected to membership. The essayist was Dr. H. Gordon Guyler of Wilkes-Barre.

Dr. Guyler: The Practical Application of Basal Metabolism to Diseases of the Thyroid.—In diffuse colloid goiter and myxedema the metabolic rate is below normal, 8 to 18 per cent in the former and, as much as 40 per cent in the latter. In the toxic adenomas, it may be 30 per cent above normal; in hyperthyroidism, 30 to 80 per cent. Any pathologic condition which causes either an increase or a decrease in the amount of glandular secretion will produce a corresponding increase or decrease in the metabolic rate. The level of the basal metabolism is the best guide to the activity of the thyroid gland.

Dogmatic adherence to the basal metabolic test is not without danger because (1) the test does not always express the true metabolic rate for the pathology present, and (2) even the true basal metabolism is not an indication of the correct diagnosis. According to Christie, there are two things more important than the basal metabolism in the diagnosis of hyperthyroidism. The first is a positive anamnesis, and the second is a dilatation of the heart wth a rapid rate and with no other cause discernible.

Dr. John Howarth: It is a confirmatory rather than a diagnostic finding. There are patients who have very little gland but with extreme loss of weight, rapid pulse, etc., in whom it is of value. Also it is an aid in the

severe cases of exophthalmic goiter in determining the ability of the patient to stand operation.

Dr. R. R. Janjigian: No surgeon should bring a thyroid patient to the hospital one day and operate the next. Any such patient should have a rest of several days, whether suffering from toxic adenoma, colloid goiter, or not. The rules that we have in our hospital (in the metabolism department) require a patient to come in at 6 p.m., and remain quiet over night before the metabolic rate is taken next morning.

Dr. H. B. Gibby: There has been apathy on the part of the medical practitioner in regard to the metabolic test and thyroidism. While it is not an infallible means of diagnosis, yet it is a valuable means. Every surgeon should avail himself of it before undertaking to operate and remove the goiter. One reason why it has not been used in this vicinity is that many of the men have had little faith in the manner in which the test was carried out.

Dr. Janjigian's point is well taken. On the other hand, it is difficult to induce the majority of patients to go into the hospital and wait two or three days for operation because this is lost time and added expense, and most of them can see only the time necessary for convalescence.

Dr. Crile has pointed out that the mental attitude has a great deal to do with the increase of thyroid secretion, and if it is possible to get the patient's mind at rest, there is marked decrease in secretion.

Dr. John Howarth: Dr. Janjigian fails to realize that the patient has probably visited the surgeon before and been under his care for some time before going to the hospital. Severe cases are always rested.

Dr. F. W. Roberts: Following up with basal-metabolism tests at intervals is of interest in studying the effect of treatment. In one case we had the rate taken six times, three weeks apart. At first it was over +50 per cent, and he was in a toxic state from toxic goiter. We put him on Lugol's solution, and two weeks later the rate was down to +35 per cent. We continued for two weeks, and the test was +12 per cent. That was some time ago, and now he keeps Lugol's on hand and refuses operation.

Dr. M. B. Ahlborn: I personally agree with Dr. Janjigian that there is some reason in the argument against taking the patients into the hospital and rushing them through an operation. Not only is the convalescence often stormy, but I think that some deaths in the Valley have been due to operating too soon after admission to the hospital. I always insist that the patients do what I tell them with any thyroid trouble. If you do not have their confidence and cannot make them do as you wish, you will not have good results anyhow, especially with the convalescence.

Dr. Guyler in closing: As shown by Dr. Boothby's cases, the metabolism rate is most important from the diagnostic viewpoint, in both the upper and lower extremes. Nothing gives such a low rate as myxedema and nothing so high a rate as toxic goiter, and these are the dangerous conditions. An arbitrary rate of +50 has been established in many places, and an effort is made to bring it down before operating. I quote the case of a man who had +83 and was quite toxic. After treatment he had a rate of +66. In the meantime, some of his friends induced him to go to a man who would operate (without waiting). This man said, "Certainly, you go to the hospital and we will operate tomorrow." The patient was operated upon and died on the table. It shows the danger of operating on toxic cases while the rate is too high.

Lewis T. Buckman, M.D., *Reporter.*

PHILADELPHIA

February 29, 1928,

The vice-president, Dr. John F. Roderer, in the chair.

Neurologic Surgery

Dr. Francis C. Grant: Brain Tumors with Special Reference to the Surgical Aspects of Endothelioma.—When the diagnosis is made late, after treating the patient for syphilis, refractive errors, epilepsy, encephalitis, or gastro-intestinal disturbance, the outlook is hopeless. The development of brain surgery called for a revision of the former bad prognosis, for now, when seen early, much can be accomplished and many patients permanently cured. The predominating types of brain tumor, exclusive of pituitary adenomas, are the gliomas (which form the true brain tumors, being unencapsulated and in forty per cent infiltrating) and the dural endotheliomas, and it is with the latter that we are particularly concerned, for they yield brilliant results if taken early. These tumors never metastasize, and if recurrence comes, it is slow. A hyperostosis is characteristic of an underlying tumor; whether etiologic or secondary is yet to be proved. In twenty years, at the University of Pennsylvania Clinic, there have been 88 verified meningiomas, mostly arising from the frontotemporal and supratentorial regions. The average age of occurrence is 38, and the sexes are affected equally. The development is slow, the duration of symptoms in the cerebral growths being three years, in the cerebellar, two. In 34 there was choked disk along with the usual headache and vomiting. Of the 59 cerebral cases, 28 had suffered epileptic attacks, and while the headache was diffuse, it was most severe in the region of the tumor. A slow-growing subtentorial tumor must be differentiated from an acoustic neuroma. Of the patients operated upon for supratentorial growths, 25 are alive today.

Dr. Charles H. Frazier: Major Trigeminal Neuralgia; Its Recognition and Relief.—The symptom complex is clear cut, the pathogenesis unknown, and there is no demonstrable pathology. The paroxysmal character of the pain is comparable only to the crises of tabes. Is it possibly a transitory ischemia of vasomotor origin? Trigeminal neuralgia has nothing to do with sepsis, sinuses, teeth; usually it does not occur before forty, and there seems to be a constitutional susceptibility. It occurs in high-strung individuals, rarely, if ever, in the negro, and is always primarily unilateral. It must be differentiated from the neuroses which occur in the course of disease. What is it, this tic douloureux? It begins in either the third or the second division of the nerve as attacks of paroxysms which last weeks or months, with complete freedom from symptoms between attacks. The pain is described as hot, piercing, lancinating, tearing, shooting, flashing, exploding, and in the later stages there may be continued soreness. A trigger zone of a centimeter or so is characteristic, and touching this area will bring on the paroxysms. Few are awakened by the pain; their nights are usually peaceful. Medicine is ineffectual, they invariably grow worse, nor is there a spontaneous cure on record. There have come under observation in the clinic 1,215 cases of major neuralgia, though in general practice it is rarely met. The patients are greatly apprehensive, there is flushing of the face, lacrimation, perspiration. They are antagonistic to the administration of opium and are never drug addicts. Atypical neuralgias must be differentiated, if necessary, by the therapeutic test of alcoholic injection. The average patient with neuralgia is subjected to many remedies—removal of teeth, sinus

operations, osteopathy, chiropractic, x-rays, or Christian Science.

Two remedies only are helpful—either alcoholic injections, for which experience is necessary, or the radical operation, the time element being the deciding factor. When the pain is of short duration and occurs but every six months or a year, the patient usually chooses the injection, hoping to be the one exceptional cure—but the pain recurs. After the major operation a considerable area of the face will be numb. Spiller, in 1899, first urged section of the posterior root of the gasserian ganglion, with conservation of the motor root to preserve mastication and cosmetic effect. Now fractional section of the posterior root, since it is the second and third branches that are usually involved, saves the patient further disability and obviates the danger of corneal ulcer. In the radical operation the patient is assured of permanence, he can count on no disfigurement and a minimum area of anesthesia, and the mortality risk is less than 0.5 per cent. Slides showing cases followed.

Dr. Byron Stookey, of the Neurological Institute of New York (by invitation): Operable Tumors of the Spinal Cord.—Differentiation between intrinsic disease of the spinal cord and an expanding lesion can be made by manometric studies. In a study of 120 tumors, 37.5 per cent were extradural, 40.8 per cent intradural, 3.7 per cent extramedullary, 18 per cent intramedullary. There were 25 sarcomas, 22 arachnoid fibroblastomas, 22 perineural fibroblastomas. Of these, 97 gave positive manometric tests, and of the 76 of these operated upon, tumors were found in 62. Adhesive arachnoiditis, fractures, etc., accounted for the positive tests in a few. With the water manometer in place, the jugular veins are compressed, raising pressure on the spinal fluid. If a tumor blocks the flow of spinal fluid, the manometer will not rise on jugular compression, but the apparatus may be checked by increasing the pressure in the spinal veins below the tumor (having the patient strain), thereby causing a rise. If there is a partial obstruction the rise will occur late and will be sustained, therefore it is essential to time the jugular compression and the manometric readings. For a tumor in the cauda, where definite localization is impossible, lipiodol may be used. though usually a mechanistic diagnosis is not to be relied upon. The neurologic diagnosis gives the level of the tumor, and hemilaminectomy is justifiable for exploration. In 30 cases operated upon without tumor, the following conditions were found: adhesive arachnoiditis, atrophic cord, radiculitis of the cauda, varicose veins of the cord, inflammation, multiple sclerosis, syringomyelia.

In discussion, Dr. Spiller said that in 1899 he first reported the characteristic bony enlargement over meningiomas, and in 1907 he concluded that the lesion occurred primarily in the bone, the hyperostosis acting as an irritant upon the dura. The manometric test in cord lesions is important. Every means of investigation must be employed in these cases to obtain an accurate diagnosis.

Mary A. Hipple, M.D., *Reporter.*

WARREN—FEBRUARY

Twenty members attended the February 20th meeting, held at the Children's Home, as guests of the directors of that institution. Dr. E. S. Briggs gave a brief summary of what the children's clinic is, saying that it does not infringe on the physician's work, and that parents who come to the clinic are urged to consult their own physicians whenever defects are discovered.

There was considerable discussion among the members in regard to the part that the poor directors of the county should assume in the expense of caring for contagious diseases. This matter will be considered at another meeting, and taken up with them directly.

Supper was served by the directors of the Home, where fifty children are cared for, and the physicians of the town rotate in looking after the medical end of the institution. M. V. Ball, M.D., *Reporter.*

WESTMORELAND—FEBRUARY

A regular meeting was held February 7th at the American Legion Home, Greensburg, with President S. W. Nealon in the chair.

Dr. C. C. Mechling, of Pittsburgh, presented an interesting talk on "Colitis," illustrated by lantern slides and x-ray films.

The Annual Clinic will be held on April 7th in the Armory. Dr. William J. Mayo, of Rochester, Minn., will present the surgical cases, and Dr. Harlow Brooks, of New York City, the medical cases. These clinics have shown an increased attendance on each successive year, and a record attendance is expected this year.

C. C. Baldwin, M.D., *Reporter.*

YORK—MARCH

The March meeting was held on the 1st, in the Professional Building.

Dr. Alexius McGlannon, Baltimore, Md.: Tumors of the Breast. Tumors of the breast may be divided into three types: (1) hypertrophy, (2) inflammation, and (3) benign and malignant growths. At three stages in a woman's life she is particularly apt to suffer pathology in her breast—at puberty, during lactation, and at the menopause. Inflammatory changes are rather common, lues and mumps occurring during puberty, abscess in the lactating period, and tuberculosis and gumma at the menopause. The most important change due to hypertrophy is a condition known as chronic cystic mastitis or atypical involution, which occurs at the menopause and must be differentiated from cancer, for any kind of an operation is contraindicated. During puberty the important growths are adenomyoma, adenofibroma, sarcoma, and carcinoma. During lactation a galactocele may form, and also cancer, which is quickly fatal. During the menopause cysts occur, but the main growth is the carcinoma. Sarcoma also occurs and is distinguished by the fact that the epiderm is thinned, but not destroyed; whereas, carcinoma destroys the epiderm.

In my experience, thorough early operation, with removal of axillary lymph nodes and muscle, cures seventy per cent of malignant tumors. Among the clinical characteristics of carcinoma may be included the early signs of infiltration as evidenced by the stretching of the skin and drawing in of the nipple; the presence of a hard nodular tumor with a sharp edge; discharge from the nipple, which if milky is due to atypical involution, and if bloody is due to papilloma of the ducts (if no tumor is present), to papillomatous cyst, or to a cancer cyst; and ulceration of the nipple, which must be differentiated from that caused by a simple infection or syphilis.

Milton H. Cohen, M.D., *Reporter.*

Bigotry tries to keep truth safe in its hand with a grip that kills it.
Wishing to hearten a timid lamp great night lights all her stars.

—From *Fireflies* by Tagore.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

Mrs. E. Kirby Lawson, *Editor,*
2533 Walnut Street, Harrisburg, Pa.

WORK FOR THE AUXILIARIES

The year is rapidly passing, and the time intervening is short prior to our annual meeting, but each organized county no doubt is on the alert so that its final report may be the best ever presented.

We hope every county is planning to assist with the Medical Benevolence Fund, as even a small contribution from each one would increase this worthy fund materially, and it is desired to keep this object as an outstanding feature for 1928 if possible. Will each county, therefore, let the treasurer know what it will do to help?

It is recommended that Child Health Week (April 20th to May 5th) be sponsored by each county auxiliary, and that committees be appointed to work with the committees from the county medical society.

The plans for the State meeting in Allentown next October are progressing, and we hope the program may attract our members and friends from all over the State.

The following appointments are announced for the councilor districts: second councilor district, Mrs. Thomas G. Aiken, Berwyn; third, Mrs. M. I. Pentecost, Scranton; Fifth, Mrs. Edwin B. Marshall, Annville; sixth, Mrs. Andrew L. Benson, Philipsburg; seventh, Mrs. Edward Lyon, Williamsport; tenth, Mrs. J. I. Johnston, Pittsburgh. No doubt, the remaining districts will make their appointments soon.

Mary M. (Mrs. Charles H.) Smith,
President.

THE AUXILIARY AND LEGISLATION

Considerable discussion has been taking place of late with regard to the place of the Auxiliary in the legislative campaign now under way under the leadership of Dr. Paul R. Correll, of Easton, chairman of the State Medical Society Committee on Public Health Legislation. As a means of clarifying the situation, all Auxiliary members are requested to read the article on "The Woman's Auxiliary in Political Movements" in the Secretary's Department in this number of the Journal, page 509.

This article gives an official view of the functions and service of the Auxiliary. On it, plans for the coming season may be safely based, and it is to be hoped that the county auxiliaries will lend every whit of their influence toward furthering the plans of the State Medical Society in this important field.

AUXILIARY OFFICERS

Attention is called to the list of officers of the State and National Auxiliaries published regularly on page viii of the advertising section of the Journal. This is published monthly as a convenience to those members who wish to communicate with any of the officers or committees.

COUNTY AUXILIARY REPORTS

More Replies to the Editor's Letters

Allegheny—The March meeting was held in the Blue Room of the William Penn Hotel, Pittsburgh. The speakers were Dr. John G. Bowman, Chancellor of the University of Pittsburgh, and Dr. Walter F. Donaldson, Secretary of the Medical Society of the State of Pennsylvania.

Mrs. Charles F. Aufhammer was the soloist, with Mrs. George J. McKee as accompanist. Two little sons of Dr. and Mrs. L. L. Thompson, James E. and L. L. Thompson, Jr., gave a musical group.

Butler—The annual meeting was held on Tuesday, March 13th, at which time the following officers were elected for the ensuing year: President, Mrs. Guy A. Brandberg, Butler; first vice-president, Mrs. E. F. DeLong, Boyers; recording secretary, Mrs. T. M. Maxwell, Butler; corresponding secretary, Mrs. J. M. Dunkle, Butler; treasurer, Mrs. R. M. Christie, Conoquenessing. This auxiliary meets four times a year, and while no special programs are outlined, it helps materially in the benefits for the hospital.

Dauphin—A regular meeting was held on Thursday afternoon, March 8th, in the Academy of Medicine, Harrisburg, with the president, Mrs. C. R. Phillips in the chair. The following resolution was adopted: That there should be no revision downward of the present Medical Practice Act, thereby creating a lower standard for legalized healers within our State; That no laws should be enacted which will in any way establish a substandard doctor or healer with privileges to practice within the confines of our Commonwealth; That we further endorse the present action of the Medical Society of the State of Pennsylvania regarding laws in the interest of the public health and well-being of the citizens of our Commonwealth.

Dr. G. L. Laverty, a member of the State Society legislative committee, spoke on the resolution before its adoption, and stated that it aimed particularly at certain cults in the State which, he said, were practicing without license from the proper authorities. He said that every candidate for the Legislature would be sent a questionnaire asking his position upon this subject, and from these questionnaires the medical societies would decide upon those to be given support at the election. "Register and vote and get your friends to vote, regardless of party, for the ones who will support this resolution," he said.

Mrs. W. F. Parke, of Philadelphia, member of the board of directors of the National and State Auxiliaries, who was the guest of honor for the afternoon, also urged the women to go to the polls and vote for those candidates who would support that resolution. "Many of us did not want the vote, but now that we have it we ought to use it," she said. The auxiliaries

are organized as a help to the doctors of the community, and as such, its members should be better educated along medical lines and should work for humanity and the help of the community.

The Dauphin County Auxiliary has been organized only recently, and its purpose is "to aid in the advancement of preventive medicine, to aid in securing better medical legislation, and to assist existing local agencies in prenatal welfare, housing and social conditions, and educational and philanthropic work." The membership list numbers sixty-five.

Mrs. H. H. Rhodes, of Middletown, played a piano solo, and Mrs. W. H. West rendered several violin selections, accompanied by Mrs. George W. Bauder. Following the program, tea was served, with Mrs. William Tyler Douglass, president of the Wimodausis Club, and Mrs. Jesse L. Lenker, first president of the same organization, presiding at the table.

Fayette—A card party was held on February 16th in the ballroom of the White Swan Hotel, Uniontown, which proved most successful, over six hundred tickets being sold. The general chairman was Mrs. R. H. Jeffrey. The large number of out-of-town guests, showing the interest of the members in the towns outside of Uniontown, was most encouraging. The object of this party was to make money to carry on the benevolent work which has been the program of the auxiliary.

Franklin—On Tuesday, February 21st, a meeting was held at the home of Mrs. S. D. Shull in Chambersburg, with the president, Mrs. F. N. Emmert, presiding. After the business meeting, a talk on the work and care of children was given by Miss Williams, of the hospital department of Mont Alto Sanatorium. A social hour followed, in charge of Mrs. P. D. Hoover, chairman of the hospitality committee.

The next meeting is to be held some time in April, and plans are being made to arouse enthusiasm in the work of the auxiliary and to provide worth-while programs.

Lackawanna—On Monday afternoon, January 23d, a card party and tea was held in the Century Club, Scranton, with an attendance of over one hundred, including the wives, daughters, mothers, and sisters of the members of the county medical society. This was the first social affair in 1928, and plans are being made to have more of them in the near future.

The officers elected for 1928 are as follows: President, Mrs. M. J. Noone, Scranton; first vice-president, Mrs. I. W. Severson, Scranton; second vice-president, Mrs. F. T. Cavill, Jessup; recording secretary, Mrs. M. I. Pentecost, Scranton; corresponding secretary, Mrs. W. Rowland Davies, Scranton; treasurer, Mrs. E. L. Kiesel, Scranton. Mrs. F. M. Ginley, Dunmire, was appointed publicity chairman.

Montgomery—The annual meeting was held on Friday, February 24th, at the Valley Forge Hotel, Norristown. Lunch was served at one o'clock, covers being laid for forty-five. Spring flowers were the table decorations, with individual corsages as place cards. All neighboring counties had been asked to send representatives, who responded, each bringing a message from her home county.

A short business meeting was held at the close of the luncheon. The year's work was discussed, and committees appointed A rising vote of thanks was tendered to the doctors of the Montgomery County Medical Society who had entertained the Auxiliary at a dinner dance in January. The speaker was Mrs. Tanneyhill, of New Jersey, who made a clever talk on periodic health examinations, which was followed by a discussion.

The meeting then adjourned to the foyer of the hotel, where an afternoon of bridge was enjoyed, thus ending a delightful third birthday party.

York—The meeting held February 2d in the rooms of the York Medical Club was attended by fourteen members. The president, Mrs. C. W. Eisenhower, presided, and the business of the evening was mainly the appointment of committees to carry on the various branches of work to be undertaken. Since the York County Auxiliary is less than a year old, and consequently cannot yet boast of a very large membership, it was decided to pay particular attention to recruiting new members immediately.

ACTIVITIES OF OTHER STATE AUXILIARIES

Colorado—On February 20th the Denver Auxiliary held its first social event of the year by giving a benefit bridge tea at the Nurses' Home of Denver General Hospital. Over a hundred dollars was cleared, and will be used to buy reference books for the library. Members also donated books of general interest to be used by the nurses.

The El Paso County unit has just completed its first year's work. Though a limited number of women are working, those few are doing valiant service. Meetings are held every second Wednesday in the month. Their programs are composed of educational and child-welfare work. The society sent eleven *Hygeia* subscriptions to county schools. They have sponsored seven health talks before parent-teacher associations. These talks were given by physicians of the county society. Twenty-seven health articles from *Hygeia* have been printed in local papers that have county circulation. Through contacts with the P. T. A., the Daughters of 1812, the D. A. R., the American University Women, and Girl Scout Executives, they have asked for coöperation in urging birth registrations, these groups appealing to rural gatherings and individuals wherever possible. They have sponsored the health program of the Girl Scouts, including the educational side, pure water, milk supply, care of teeth, correct posture, sunshine, and fresh air. This program will be carried on directly under the supervision of the auxiliary from March 1st to May 1st.

South Carolina—The Woman's Auxiliary to the South Carolina Medical Association has raised $1,540 toward a fund of $5,000 for the purpose of erecting a monument to Dr. James Marion Sims, the famous surgeon of South Carolina. Dr. Sims invented several surgical instruments, among them the speculum bearing his name, which revolutionized the practice of gynecology. He organized the Woman's Hospital of New York, and was called to Europe to perform a surgical operation on the Empress Eugenia.

Virginia—Mrs. Southgate Leigh, Norfolk, Va., president of the Woman's Auxiliary to the Medical Society of Virginia, is chairman of the Program Committee for the national auxiliary meeting, which will be held June 11-16, in Minneapolis, Minn.

The principal speaker, it is expected, will be Dr. Vincent, of the Rockefeller Institute, New York. Others will be Dr. Jabez N. Jackson, Kansas City, and Dr. W. S. Thayer, Baltimore, respectively president and president-elect of the American Medical Association.

THE

MEDICAL SOCIETY OF DELAWARE

THE USE AND ABUSE OF DIGITALIS*

JOSEPH SAILER, M.D.
PHILADELPHIA, PA.

I have chosen to discuss one feature of the treatment of heart disease, and that, in a way, a purely negative one. It is the discussion of those cardiac disturbances in which digitalis is not useful, or may, indeed, do harm. So much has been written upon the value of digitalis, the proper method of its administration, and its specific action in certain conditions, that it sometimes seems as if the beginning and end of cardiac therapy consisted of this single drug. It cannot be said that we understand fully the action of digitalis at the present time, although Witherington's book describing its diuretic action was published in 1783, and since that time it has been studied in practically every manner. Its active principle is still uncertain, or rather, its action depends probably upon several substances. Schmiedeberg has obtained three glucosids, digitoxin, digitalin, and digitalein.

Digitalis has, however, been used to provide various substances produced by pharmacological houses. Kolipinski (quoted by Robinson) isolated digitalic acid, which he claimed possessed all the therapeutic properties of the whole drug, but his work has not been confirmed. Unquestionably, at the present time preparations of the whole drug are the most potent and satisfactory.

As the drug in nature varies greatly in therapeutic action, it is necessary to standardize it. The tests all depend upon determining the minimum lethal dose. Many years ago in the preparation of a graduation thesis, I determined that 1/10,000,000 of the body-weight of a dog in uabain would kill it if injected into a vein. In 1910, Hatcher and Brody determined that the same dose of this drug, one of the strophanthus group, would kill a cat; that is, 0.1 mgm. per kilogram of cat. Upon this the method of testing digitalis is founded; that is, the additional amount of uabain required after a measured quantity of some digitalis body has been injected. According to Eggleston, it is the best method at present available, and it is used by certain pharmacological houses, so that a reasonably standard preparation can be obtained.

The knowledge of the therapeutic action of digitalis leaves much to be desired. This is due to many causes. At first, a paramount value was placed upon animal experiments, all of which were necessarily done upon normal hearts, and if there be added to this the further fact that the physiology of the heart is at the present day only beginning to be understood, as witness Lewis's work on the mechanism of the heart beat, it will be appreciated how little effective information was furnished. I do not wish to be understood as decrying these experiments, for without them as a foundation, our present knowledge could never have been attained. Secondly, until MacKenzie began his studies with the polygraph, it is fair to say that very little was known of heart disease. This is strange, for during the nineteenth century more time was devoted to physical diagnosis, particularly that of the heart, than to any other branch of medicine. Thirdly, the variation in the potency of digitalis preparations from none to every possible degree, made accurate dosage and, in consequence satisfactory study of the effects of the drug impossible.

The most important finding of the laboratory was that after the administration of digitalis, the pulse rate was slow, the blood pressure increased, and that if the pneumogastric nerves were cut, the pulse became very rapid, from which it was inferred that digitalis stimulated the inhibitory centers in the medulla. Later it was found by more accurate studies, aided by instruments, that digitalis in large doses produced premature contractions and heart block. It is worthy of note that the depression of the auriculoventricular condition was first demonstrated by Mackenzie as recently as 1905. Cushny noted that digitalis produced heart block, particularly in hearts in which the auriculoventricular conducting system was already damaged. Robinson states that when the conduction is delayed beyond normal limits, it is a contraindication for the

*Read before the Medical Society of Delaware, Farnhurst, Del., October 12, 1927.

use of digitalis. There is some reason to suppose that this effect can be partly controlled by atropin. All sorts of remarkable results have been ascribed to digitalis, such as auricular extra systoles, auricular fibrillation, pulsus bigeminus, and an increase of the vagus response.

The toxic effects of digitalis other than those upon the heart consist chiefly in the vomiting that it causes, known since the time of Witherington. Just how it is produced is uncertain, but it is always an indication for stopping the administration. Plummer believes that digitalis depresses the central nervous system, particularly in hyperthyroidism. Finally, in lethal doses death is caused by ventricular fibrillation. Robinson and Wilson have calculated that the maximum therapeutic effects are obtained by from 30 to 40 per cent of the lethal dose. It is possible that even this dose is excessive.

Very briefly I desire to discuss the therapeutic action of digitalis. No satisfactory experiments have been made which prove that digitalis stimulates the heart muscle. In addition to its action upon the center in the medulla, it also diminishes the conductivity of the heart muscle. In cases with already impaired conductivity the action of digitalis is more pronounced. Upon blood pressure the action is variable, and digitalis may cause a reduction of the pressure in cases of hypertension. Robinson finds that digitalis tends to restore the blood pressure to a normal level. The diuretic action of digitalis is most pronounced if there is anasarca. Its mechanism is also subject to much dispute. Auricular fibrillation and auricular flutter are the two conditions in which digitalis has a specific action; although there are cases of fibrillation in which a normal rhythm cannot be restored. Younger patients are more amenable, although Musser has reported a long-continued case of arhythmia which must have commenced in youth. Small doses of digitalis, according to Wenkeback, may relieve premature contractions. There are probably many causes of these, and surely not all cases are helped. Regarding the effect of digitalis upon myocardial degeneration, or rather, to use a better term, cardiac insufficiency, there is still much discussion. Apparently, if the dose is small enough, no damage ensues. As in so many questions of therapeutics, opinion plays a very large part, and some think that the patients are better, others not. In valvular disease, aside from mitral stenosis, in which it has always seemed to be beneficial, the effect of digitalis seems to depend upon other factors than the valve involved. To summarize briefly, digitalis causes vomiting, slows the heart, produces heart-block, causes premature contractions, relieves auricular fibrillation and flutter, and benefits the decompensation that occurs in mitral stenosis; and all its other effects are matters of dispute.

Among the cardiac conditions in which the use of digitalis is questionable is digitalis poisoning, especially vomiting. This is too obvious to require discussion; but it may be useful to note that if some preparation, usually with a proprietary name, is being administered hypodermically, it should be stopped if vomiting occurs, although it may subsequently be found that the vomiting is due to some other cause. Digitalis heart block may be suspected if the pulse during digitalis administration drops to a rate of sixty or below. The thudlike heart sounds, especially the first heard in the apical region, are quite characteristic. The condition, if it occurs in healthy young persons, is not, as a rule, serious. It can be recognized by the electrocardiogram, and relieved, if necessary, by atropin. Branch bundle block also belongs to this group. In this, one of the branches of the bundle of His is destroyed, or at least inhibited for a time. The heart is damaged, but may continue to maintain the circulation for many years. It can be recognized only by the electrocardiograph. Digitalis, if given in large enough doses, increases the block, and causes decompensation. Arborization block is debatable. It is a condition in which the conduction fibers of the branches that extend throughout the heart and carry the conduction impulse are damaged or interrupted in some part of their course, usually as a result of infarction or thrombosis of the branches of the coronary arteries. It is not very uncommon. The symptoms are intense precordial pain, fear of moving, intense prostration, and a clear mind, filled with anxiety. It is probably one of the conditions that goes by the name of acute indigestion, and is regarded very properly as a cause of sudden death. My personal opinion is that digitalis should not be used in this condition.

I have observed two cases that may bear upon this. One patient was a man of middle age (54), who fell suddenly on the golf links, with intense precordial pain. He was carried to the clubhouse and placed upon a couch, where he remained for five days. I saw him on the second day. The heart was slow and slightly irregular. No graphic methods could be employed. He seemed to improve, but on the fourth day his physician decided to give digitalis to stimulate the heart muscle. He reported immediate benefit, but on the fifth day the patient suddenly died. He might have died if he had not received digitalis. The second patient was an old woman who was

brought to my service at the Presbyterian Hospital. She was carefully studied, and the changes in the electrocardiogram supposed to indicate coronary thrombosis were found. For several weeks she seemed to do surprisingly well. Then the service changed, and my successor immediately administered digitalis, I suspect because hers was a heart case, and she promptly died. She was also in a precarious condition, and the only conclusion that may be drawn from the two cases is that digitalis does not prevent or even delay death in arborization block. So little is known of this condition at the present time, that the only drug which offers any possible service is morphin.

Sino-auricular block, a rare condition observed in old people, and characterized by prolonged intervals between the auricular systolic contractions, is recognized only by the electrocardiograph or by the auscultatory observation of long delays between the heart beats. It must be noted that flutter and fibrillation are both forms of heart disease, due perhaps to failure of the ventricle to keep pace with the auricle rather than to actual delay in conduction. In both conditions, as has already been mentioned, digitalis is a specific. Also it should be stated that in all the other forms of block, some authors have advocated digitalis, usually, however, in small and ineffective doses. The evidence is not conclusive, but there is much reason to suppose that digitalis in large therapeutic doses may be harmful.

The use of digitalis in infectious disease has been widespread. In acute rheumatic fever with endocarditis, its administration has been almost routine, although I believe it cannot be demonstrated that the drug has been of any benefit. Lately the great interest that has been aroused by rheumatic infections, particularly as a result of Small's discovery of a streptococcus which is suspected as the cause, has led to more careful studies of the heart in the early stages. McMillan, among others, has shown that the conduction time of the heart is retarded: that is, there is a tendency to heart block, and it may be that digitalis in massive doses could do harm. In one case of chronic valvular disease with a recent infection in which I saw the result of the administration of such a massive dose, the patient immediately became much worse, and died in a few days. It is difficult to reach satisfactory conclusions. Massive doses may be dangerous. It does not follow that smaller doses are injurious; nevertheless, digitalis in blood-stream infections is falling into disuse because it does nothing to prevent or delay the usual fatal result. There is, of course, a chronic form of blood-stream infection, of which cases have been reported by Oille, Libman, and myself, that does not kill, and occasionally blood-stream infections recover spontaneously. In neither of these forms is digitalis of any value.

Digitalis was strongly urged by Alfred Cohn in pneumonia for the reason that he found it of value in a fairly large proportion of cases of this disease, about ten per cent. It was extensively used during the war, particularly by Stone, Phillips, and Bliss, and apparently the mortality was reduced. So many factors influenced the mortality from pneumonia in the camp hospitals, particularly improvement in organization and the training of the attending physicians, that conclusions should not be reached too hastily. At Camp Wheeler, where I was stationed, the mortality was reduced from thirty per cent to ten per cent, although digitalis was not used. Stewart Hart has criticized its use. The difficulty of obtaining a series of electrocardiograms in a large pneumonia service is almost insuperable, but I have the impression (unfortunately it is nothing more) that the percentage of cases of auricular fibrillation or flutter in Cohn's series was unusual. Indeed, I did not see a case in 1,500 patients suffering from pneumonia which I could recognize clinically as auricular fibrillation. McCulloch, quoted by Robinson, believes that digitalis, because it produces effects upon the heart similar to those of diphtheria toxin, should not be administered after diphtheria. In other infections its administration is purely empirical, and therefore various views regarding its efficiency will be held.

The functonal or toxic disorders of the heart, whatever one chooses to name them, are not very amenable to treatment. Sinus bradycardia does not need treatment; it is only an anomaly. Paroxysmal tachycardia is not affected by digitalis in any form. Indeed, it comes and goes apparently as it will, with sudden onset and arrest. Once an attack was arrested during the intravenous administration of adrenalin, but when I repeated this treatment in two subsequent cases, no benefit was produced. One of these cases, however, apparently was helped by pituitrin. The relation of drug to cure is very tenuous in these cases.

Premature contractions may sometimes become annoying. Various remedies have been suggested, among them digitalis, atropin, and quinidin. The most effective is giving up tobacco, or, if they occur during digitalis administration, stopping that drug.

Two neuroses of the heart deserve consideration. The tachycardia of hyperthyroidism is not slowed by digitalis. It may be slowed by iodin, and as a result of superior ligation or thyroid-

ectomy. Plummer believes that digitalis is not only useless, but actually injurious, the result apparently of its depressing effect upon the central nervous system. He supports his arguments by an imposing array of statistics. This corresponds with clinical experience. Effort syndrome, or, to give it the name suggested by Dr. J. M. Da Costa, soldier's heart, is a cardiac neurosis of unknown nature that resists all treatment, including digitalis. It is almost restricted to war time, and although the clinical material was large during and after the World War, the treatment is as hopeless as it was after the Civil War.

Finally one must consider the use of digitalis in acute decompensation. It has usually been given in the form of strophanthin, and intravenously. It is apparently useful in many cases. Robinson states that the value of digitalis in the type of myocardial insufficiency which has been described is not nearly so well established as it is in cases of heart failure with auricular fibrillation. When I was a resident physician, a man was admitted to the ward, deeply cyanosed and intensely orthopneic. My chief, Dr. W. E. Hughes, told me to bleed him and to give gr. 1/10th of strychnin sulphate every hour. After the fifth dose compensation was restored, and ultimately the patient walked out of the hospital. Once since then in a similar case, I have used this treatment with equally good results.

The cases of chronic insufficiency with edema were those that furnished Withinton with his greatest triumphs, but merely for the dissipation of the tissue water there are at least two other measures of great value—the salt-free diet and drainage, especially the Southey tubes.

Angina pectoris is rarely, if at all, helped by digitalis.

It seems that the treatment of heart disease is now in a very uncertain state, but there is, I believe, hope in a rather new form of investigation, that is the behavior of the heart in altered chemical states. Thus, as a result of perfusion of the excised reptilian heart with various solutions, and with solutions of various PH, remarkable alterations in the electrocardiogram have been produced, such as a change from a right to a left preponderance, formerly supposed to be a result of serious disease, and alteration in the rate and apparently in the force of the heartbeat. Diagnosis is the beginning of treatment, and when we understand better the conditions which underlie cardiac decompensation and arhythmia, the treatment will be more rational and, as a result, more effective.

Briefly to summarize, digitalis is useful and almost a specific in auricular fibrillation and flutter. It is useful in mitral disease, especially stenosis, and in decompensation with edema. Its effect is uncertain and disputed in aortic disease and hypertension. It is useless in paroxysmal tachycardia and effort syndrome. It is probably harmful in postdiphtheritic conditions and in hyperthyroidism. Its effect is disputed in pneumonia and acute endocarditis. It is almost certainly harmful in heart block, in branch bundle block, and in arborization block. The dose is 22.5 c.c. of a normal tincture (1 c.c. = 1 cat unit) for a patient weighing 100 pounds.

250 South Eighteenth Street.

Medical News

Deaths

Mrs. Elsie Sterling, wife of Dr. Alexander Sterling, Philadelphia; February 10.

Mrs. May M. Griest, wife of Dr. Andrew J. Griest, of Steelton; aged 34; March 13.

Arthur W. Beatty, M.D., of Colver; Jefferson Medical College, 1906; aged 52; February 29.

Joseph M. Corson, M.D., of Hughesville; Jefferson Medical College, 1892; aged 60; March 2.

David S. Moyer, M.D., of Donaldson; Jefferson Medical College, 1878; aged 75; March 9.

Mrs. Lavina Towson Middleton, wife of Dr. William J. Middleton, of Steelton; aged 60; March 12.

Steuben D. Angle, M.D., of Portland; Northwestern Medical College, St. Joseph, Mo., 1886; aged 76; recently.

B. Frank Wentz, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1895; aged 58; March 16.

Milton R. Peters, M.D., of Boiling Springs; Hahnemann Medical College of Philadelphia, 1881; aged 72; January 9.

Horace L. Carncross, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1895; aged 58; March 4.

David C. Cramer, M.D., of Newburg; Jefferson Medical College, 1880; aged 73; January 3, of arteriosclerosis.

James K. Bently, M.D., of Scranton; University of Buffalo School of Medicine, 1867; aged 82; February 10.

Millard L. Raemore, M.D., of Williamsport; College of Physicians and Surgeons, Baltimore, Md., 1915; aged 39; March 12.

Laura Calver Clements, M.D., of Wayne; Woman's Medical College, Philadelphia, 1889; active in social-welfare work; aged 60; March 7.

John W. Coolidge, M.D., of Los Angeles, Calif. (formerly of Scranton); University of Michigan Homeopathic Medical School, Ann Arbor, 1879; aged 75; recently.

Gerald A. Kelly, M.D., of Jessup; University of Pennsylvania School of Medicine, 1922; aged 33; shot in his home by a former patient, Joseph Cominsky, aged 22.

Robert Abbe, M.D., of New York City; noted cancer expert; associate of Mme. Curie in Paris; pioneer in

the use of radium; senior surgeon at St. Luke's Hospital; aged 77; March 7, of aplastic anemia.

Walter Lathrop, M.D., of Hazleton; University of Pennsylvania School of Medicine, 1890; medical superintendent of the Hazleton State Hospital; aged 59; February 9, of septic laryngitis and cerebral thrombosis.

Births

To Dr. and Mrs. Sedic S. Rine, of Danville, a son, March 6.

To Dr. and Mrs. Louis F. Grebe, of Reading, a daughter, recently.

To Dr. and Mrs. Josiah F. Reed, of Harrisburg, a daughter, Jane Wills Reed, February 29.

To Dr. and Mrs. C. W. White, of Narberth, a son, Charles Kirkpatrick White, 2d, February 28.

To Dr. and Mrs. S. W. Byrod, of Steelton, a daughter, March 18.

Engagements

Miss Madeleine Hower Pierce, of Wilmington, and Dr. William T. Lemmon, of Philadelphia.

Miss Alice Wait, daughter of Dr. and Mrs. Oliver Babcock Wait, of Philadelphia, and Mr. Thomas Bradford Drew, of Wayland, Mass.

Miss Carolyn A. Krusen, daughter of Dr. and Mrs. Wilmer Krusen, of Philadelphia, and Dr. Karl William Henry Scholz, assistant professor of economics at the University of Pennsylvania. Miss Krusen is an instructor of physical education at the University.

Marriages

Miss Ann Stewart to Dr. Jarold Elting Kemp, both of Philadelphia, January 10.

Miss Hazel Brint, of Trenton, to Mr. Charles Lovett, son of Dr. and Mrs. Henry Lovett, of Langhorne, recently.

Miss Edith C. Opdyke to Mr. W. Cooper LeCompte, son of Dr. and Mrs. William C. LeCompte, of Bristol, February 3.

Miss Florence Edith Heritage, of Overbrook, to Dr. Dudley Pomp Walker, son of Dr. and Mrs. William P. Walker of Bethlehem, April 7.

Miss Victoria Scott Houck, of Camp Hill, to Mr. Henry J. Sommer, Jr., son of Dr. and Mrs. Henry J. Sommer, of Hollidaysburg, February 11.

Miss Mae E. Crouthamel, daughter of Dr. and Mrs. Joseph F. Crouthamel, of Souderton, to Mr. W. Abner Handwerk, of Slatington, recently.

Miscellaneous

Dr. James D. Heard, of Pittsburgh, is president of the Pennsylvania Heart Association for 1928.

On January 12, the George F. Geisinger Memorial Hospital, Danville, dedicated a $300,000 addition.

The annual meeting of the American Medical Association will be held in Minneapolis, June 11 to 15.

The annual meeting of the National Medical Association will be held June 18 to 20 in Minneapolis.

Mrs. Rorke, wife of Dr. John H. Rorke, of Reading, recently underwent an operation at St. Joseph's Hospital.

Dr. Ray Alexander, of Bolivar, has been appointed medical examiner for the State Workmen's Conmepsation Board.

Dr. and Mrs. Elmer E. Pownall, of Richboro, had a narrow escape from serious injury recently in an automobile collision.

Dr. Joseph C. Reifsnyder, of Scranton, was elected president of the Pennsylvania Public Health Association, February 13.

The city of Wilkes-Barre will receive a health center costing $200,000, the gift of Mr. Fred M. Kirby as a memorial to his mother.

Drs. Homer J. Rhode and Malcolm Z. Gearhart, of Reading, sailed February 3 on the *Munargo*, of the Munsen line, for Nassau in the Bahamas.

The home of Dr. Henry K. Gaskill and his daughter, Miss Doris Elizabeth Gaskill, on Sharpless Road, Melrose, was recently destroyed by fire.

The sum of $10,000 has been willed by the late Elizabeth E. Cope to the Germantown Dispensary and Hospital for the endowment of two free beds.

Dr. Robert A. Gaughan has been named superintendent and chief surgeon of the Hazleton State Hospital to succeed the late Dr. Walter A. Lathrop.

The Pennsylvania Safety Congress was held in the Bellevue-Stratford, Philadelphia, March 21, 22, and 23, under the auspices of the Commonwealth of Pennsylvania.

The Physicians' Progressive League is the title of a recently organized society in New York City to advance the social and economic interests of the profession.

The purchase of the old Reading Hospital Buildings and surrounding grounds for a tuberculosis sanatorium is now under consideration by the Berks County Commissioners.

Dr. Thomas G. Killeen, of Scranton, is a candidate for nomination as delegate from Lackawanna County to the Democratic National Convention at Houston, Texas, next summer.

Dr. Maude Slye, of the University of Chicago, has been recommended by the American College of Physicians for the Nobel Prize Award for her work and achievements in cancer research.

The fifteenth annual meeting of the American Society for the Control of Cancer was held at the Society's headquarters, 25 West 43d St., New York City, and at the Biltmore Hotel on March 3.

The second annual Conference on Public Health, under the auspices of the American Medical Association, was held at the Association headquarters in Chicago on March 30 and 31.

On January 30, Dr. Haven Emerson, of the School of Hygiene of Columbia University, gave a lecture on "Public Health" at the annual meeting of the Johnstown chapter of the American Red Cross.

Dr Addinell Hewson, of Philadelphia, was the guest of honor in the Benjamin Franklin Hotel, March 15, at the annual banquet of the Anatomical League, which he founded at Temple University fifteen years ago.

Jefferson Medical College has given notice in Orphans' Court of an intention to claim a $67,000 trust fund left by Dr. J. Ewing Mears, of Philadelphia, to Harvard University for the study of eugencies, which that university rejected a year ago.

The Reading Hospital has planned a series of clinics at that institution, and a cordial invitation is extended to all physicians to attend. The first of the series was held on February 15, at which time diseases of the chest were discussed.

Dr. Herbert Fox, of Philadelphia, recently went to Beaufort, N. C., at the invitation of the U. S. Bureau of Fisheries, to investigate cancerous tail diseases among young terrapin propagated at that station.

Dr. Ross H. Skillern, of Philadelphia, has been invited to deliver an address at the annual convention

of the British Medical Association which is to be held in Cardiff, Wales, July 23-26.

The National Board of Medical Examiners will hold two more written examinations in Parts I and II during 1928 on the following dates: June 13, 14, 15, and September 12, 13, 14. Applications for the June examination should reach the office of the National Board not later than May 10.

The tenth annual meeting of the Western Association of Physical Therapy will be held in Kansas City, April 20 and 21, with headquarters and meeting place at the Hotel President. The Western School of Physical Therapy will precede the session of the Association, beginning Monday, April 16.

Dr. Henry R. M. Landis, of Philadelphia, was elected president of the Pennsylvania Tuberculosis Society at its annual meeting in Harrisburg. The board of directors of the Society was increased to thirty-seven at this meeting, and Dr. Wesley F. Kunkle, of Williamsport, was elected director.

Under the Auspices of the Allegheny County Medical Society, the third series of graduate courses has been arranged for its own members as well as any member of any county medical society in Pennsylvania. The registration fee has been set at a minimum and is for payment of the administrative expense in connection with the courses.

The following additions and changes have been made in the Reading Hospital staff: Dr. Jesse L. Wagner is now chief of the ear, nose, and throat department. Miss Mabel G. Kessley has been appointed psychologist in the neurologic department under Dr. Frederick Leavitt. Dr. Earl W. Rothermel is assistant in the department of orthopedics, and Dr. Clarence E. Goode is assistant in the department of surgery.

The American College of Physical Therapy is sponsoring a clinical tour of Europe for its fellows and other interested physicians. No less than twenty-one clinics are included in the itinerary. The party will sail from New York, May 26. Headquarters for this tour have been established at 25 Broadway, Suite 656, New York City, and further particulars may be obtained by writing to that address.

The Joint Committee on Graduate Medical Education of the Medical Society of the County of Kings announces a special course in gynecology, medicine, pathology, neurology, surgery, urology, obstetrics, pediatrics, skin and syphilis, bronchoscopy, roentgenology, orthopedics, and otology, to be given at the Kings County Hospital, Clarkson Ave., Brooklyn, N. Y., during the week of April 23d. The fee is $35.

President A. Lawrence Lowell, chairman of the Commission on Medical Education, has appointed the following committee chairmen: Chancellor Samuel P. Capen, Committee on Premedical Training; Professor Lafayette B. Mendel, Committee on Training in the Medical Sciences; and Dean David L. Edsall, Committee on Clinical Training. Dr. Willard C. Rappleye, 215 Whitney Ave., New Haven, Conn., is secretary of each of these committees.

The Interstate Post Graduate Medical Association of North America has published an itinerary of the American Spring Assemblies, which will visit the university and hospital clinics of the southern and western part of the United States, May 16 to June 10, closing at Rochester, Minn., in time to permit the members of the Assemblies to attend the meeting of the American Medical Association. For full information, write Dr. W. B. Peck, Managing Director, Freeport, Ill.

The University of Pittsburgh School of Medicine recently completed an extension course of seven lectures delivered before the members of the Butler County Medical Society. The sessions were held alternately in the morning and evening in an effort to accommodate the members. The lectures were well attended, and it was noted that there was an unusually good attendance of doctors living in the county at a distance from the meeting place, and who seldom attend meetings of the Society.

The first international Oto-Rhino-Laryngological Congress will be held in Copenhagen, Denmark, July 29 to August 1, the members sailing from New York on July 6. Membership in the tour is by invitation only. Applications should be made as early as possible, as the party will be limited in number. For reservations and full details address American Committee for Attendance at the First International Oto-Rhino-Laryngological Congress, Suite 656, 25 Broadway, New York City.

The Council of the British Empire Cancer Campaign is sending invitations all over the world to persons and organizations conducting research into cancer to attend the International Convention on Cancer Research next July in London. Receipt of an anonymous gift to the campaign of $50,000 was recently announced. The sum of $80,000 also has been set up as a permanent trust by the executors of the estate of William Johnston of Liverpool, the interest of which will be applied to cancer research in Liverpool.

The Alumni Association of Jefferson Medical College, Philadelphia, held its annual meeting and election on Thursday evening, February 23, at the Penn Athletic Club. The following officers were elected: president Dr. Willard H. Kinney; vice-chairman, Dr. Ross V. Patterson; vice-presidents, Drs. E. J. G. Beardsley, Elmer H. Funk, Elmer L. Meyers, and Charles E. G. Shannon; corresponding secretary, Dr. James L. Richards; recording secretary, Dr. Ralph M. Tyson; treasurer, Dr. Harold W. Jones; editor, Dr. Edward Weiss.

The American Doctors' Clinic and Golf Association has planned a summer vacation tour in Europe, which will include clinical study, sight-seeing, and the opportunity to play golf on some of the renowned links of the Old World. The party will sail from New York the first week in July, visiting Liverpool, Leeds, Edinburgh, Birmingham, the Shakespeare country, London, Brussels, Ostend, Paris, and the battlefields, and will return to Montreal from Cherbourg August 16, reaching Montreal on the 23d. Full information may be obtained from John P. DeWitt, M.D., 112 Shore Ave., Canton, Ohio.

On March 22, the tercentenary of the discovery of the circulation of the blood by William Harvey, Sir Humphrey Davy Rolleston, regius professor of medicine in Cambridge University, England, and Dr. John James Rickard MacLeod, professor of physiology in the University of Toronto, were each made the recipients of the honorary degree of Doctor of Science by the University of Pennsylvania. And at a convocation of the faculty of Jefferson Medical College, Sir Humphrey was made Doctor of Laws, while a second degree of Doctor of Science was conferred on Dr. MacLeod. Both visitors addressed the College of Physicians in the evening. Universities and medical associations in England made a three-day celebration of the tercentenary, the greatest event in British medical circles.

The year 1928 marks the seventy-fifth anniversary of the Episcopal Hospital, Philadelphia, and to observe the occasion, the former residents, officers of Base Hospital 34, former staff members, and the present visiting staff will assemble for a celebration on May 3. As this date follows the termination of the Congress of Physicians in Washington, former residents living at a distance from Philadelphia may plan a trip to Washington and a visit to the old P. E. H. The details of the celebration have not been completed, but there probably will be clinics at the hospital in the morning, followed by lunch, some form of entertainment in the afternoon, and a dinner in the evening. Plan to go back and see your old chiefs, meet your old friends, and do honor to the Episcopal Hospital. Dr. E. T. Crossan, 5324 Wayne

(Concluded on page xviii.)

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MEDICAL NEWS

(Concluded from page 528.)

Ave., Philadelphia, asks to be notified by all who plan to attend the celebration.

A few days after the official opening day, March 16, when the new Presbyterian Hospital building at the Medical Center in New York will be open for inspection by the medical authorities, the Presbyterian Hospital of New York will admit patients to wards and private rooms, and outpatients to the Vanderbilt Clinic. This building, the tallest hospital structure in the world, in which are housed the Presbyterian Hospital, the Sloane Hospital for Women, and the Squier Urological Clinic, has an ultimate bed capacity of 1,177. A few days before this date, Anna C. Maxwell Hall, the residence of the Presbyterian Hospital Training School pupils, will be first occupied by the incoming class of about fifty students. This is a fifteen-story H-shaped structure, having living quarters for 360 pupil nurses, an individual room with running water for each occupant. A large swimming pool and recreation hall are also features of the residence.

At the request of the Pennsylvania State Commission on Cancer, the Philadelphia County Medical Society, through its Committee on Cancer Control, is arranging *a special intensive course for the study of cancer* on May 22, 23, and 24, for all physicians who are interested. Sessions are to be held morning, afternoon, and evening. The mornings are to be devoted to special clinical demonstrations upon diagnosis, treatment, and results, in the centrally located teaching hospitals of Philadelphia. A special free buffet luncheon is to be served to the physicians who register for this course, so as to conserve time and prevent scattering. Details of the program will be published in the near future. The registration fee will be $5.

Please register at once with Franklin M. Crispin, Executive Secretary, the Philadelphia County Medical Society, S. E. Corner 21st and Spruce Streets, Philadelphia, so that satisfactory arrangements may be made.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

NUTRITION AND DIET IN HEALTH AND DISEASE. By James M. McLester, Professor of Medicine, University of Alabama, Birmingham, Alabama. W. B. Saunders Company, Philadelphia and London.

Doctor McLester has yielded gracefully to the temptation to combine an excellent work on the practice of medicine with his masterful volume on food and dietetics.

The first chapters handle exhaustively and authoritatively the questions of metabolism, food, digestion and absorption, nutritional factors of fundamental importance and nutritional factors of lesser importance, economic considerations of various food products, their preservation and their relative values, the diet in health at different ages and the diet in disease, the consideration of the management of diseases in which diet is of paramount importance, e.g., diabetes mellitus—a scholarly description of this disease with its complications and modern treatment, a most full and satisfactory description of insulin and its mode of employment.

In the chapter on arthritis, the difference between gout and the infective arthritides is brought out, the use of purin-free diet is discussed, also obesity and leanness, the dangers of obesity, and the importance of its treatment. Then follows anaphylaxis and food poisoning, the diseases of the kidneys and the urinary tract, diseases of the digestive organs, constipation and diarrhea, and diseases of the liver and pancreas. Then

(Concluded on page xx.)

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BOOK REVIEWS

(Concluded from page xviii.)

comes a very valuable discussion of the feeding of patients with typhoid fever, tuberculosis, and pneumonia, including the caloric feeding of typhoid, the rational but not excessive feeding of tuberculosis, and the limited feeding of pneumonia with the abundant use of water and the demonstration of the value of alcohol. The use of the nasal stomach tube or the rectal tube, the Murphy drip, and of hypodermoclysis in the avoidance of dehydration in various infectious diseases, are discussed.

The reviewer cannot see why Dr. McLester did not allow alcohol to be used in scarlet fever, properly diluted. In protracted cases of influenza, the value of the high-calory diet, as in typhoid fever, is wisely emphasized. In a book where so much space is given to the management of the various diseases, it seems as though we might have expected some good advice as to the toxin-antitoxins in the prevention of diphtheria and scarlet fever, and in their therapeutic management. Good advice is given as to the management of meningitis, tetanus, smallpox, Asiatic cholera, and many other diseases. Minot's and Murphy's liver treatment of pernicious anemia is well described, but Dr. McLester wrote this part of his book too early to include a proper evaluation of this method of treatment. In the second edition of this excellent work, pernicious anemia will undoubtedly appear among those "diseases in which diet is of paramount importance."

There is a valuable index which embraces twenty-one pages. This book is destined to be of great value as a book of reference, and consequently the index might even be considerably enlarged. A very valuable bibliography is scattered through this volume, arranged under special headings, as Energy Requirements, The Protein Problem, Vitamins, Mineral Requirements, Phosphorus, Iodides, Water Balance, Cost, Meat, Fish, Eggs, etc. The bibliography would be more conveniently available if it were all gathered at the end of the book next to the general index, and if the system of grouping the bibliography under special headings were even a little more completely carried out. The tables giving normal heights and weights for particular ages and different sexes are valuable. Also tables of equivalents, weights, measures, etc.

Dr. McLester is entitled to speak with more authority and often to omit entirely a system which has too long been granted space. We want the system of which McLester approves, not our choice of several of doubtful value. His discussion of the food value of cheese is particularly commendable. But in other places, too many authorities are sometimes quoted and contradictory advice is given, as when buttermilk is recommended in hyperchlorhydria, corn flakes and puffed cereals are allowed, "shredded-wheat biscuits and other coarse breakfast foods" are not allowed. It seems to the reviewer that Dr. McLester should give the weight of his authority clearly and plainly on one side or the other of all mooted questions which most writers are so apt to treat with courtesy and indecision; for example, in the use of alkalies in hyperchlorhydria and the use of dextrose intravenously with insulin.

The value of this splendid work would be increased if its bulk could be diminished by a hundred pages.

METHODS AND PROBLEMS OF MEDICAL EDUCATION. Eighth Series, 372 pages. Division of Medical Education, 61 Broadway, New York.

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Symposium On Physical Therapy *

PHYSICAL THERAPEUTICS; ITS USE IN THE GENERAL PRACTICE OF MEDICINE

CLEMENT R. JONES, M.D.
PITTSBURGH, PA.

In presenting this symposium we are fully aware of the general lack of interest of a large portion of the medical profession in the subject, including the departments of therapeutics in many of our medical schools. The situation in the application of physical therapeutics is peculiar, most of the profession being interested only in the simplest forms of this type of treatment. Reconstruction measures following the World War have established a place for physical therapeutics in the surgical department of every large hospital, and no general surgeon has failed to benefit by its introduction in reëstablishing function and return of usefulness of parts incapacitated by injury. General practitioners and internists have been much slower in taking up physical measures in the treatment of diseases coming under their management. Probably at no period in medical history has the physician depended so much on purely chemical and biochemical therapeutics as in the last two decades, and in the early part of that period, instruction in certain medical schools reached almost to the point of therapeutic nihilism. Therapeutics includes in its scope not only measures for the cure of the patient's disease, but also for his relief from discomfort and the prevention of disease by the maintenance of health.

Measures, pharmacal, physical, and physiologic, may be used in the management and treatment of patients. May I here call attention to one of the most important rules in therapeutics—"That we treat the individual person and not alone his ailment." There is a very large element of empiricism in most physical-therapeutic measures. This applies to some of the most successful uses of x-ray, radium, hydrotherapy, climate, heliotherapy, and vitamin diets, as well as to many measures of a chemical and biochemical nature. It is very desirable that we determine through careful study under proper control a definite rationale for each form of physical treatment which empirically has proved successful. To this end every student of medicine should have the benefit of premedical training in biophysics, physical chemistry, and biochemistry, and undergraduate and postgraduate courses in the application of physical therapeutics in the treatment and prevention of disease.

In the medical specialty of dermatology, physical therapeutics holds a well-recognized place. Radium, x-ray, ultraviolet light, carbon-arc and other heat and light treatments are used in hospitals and private practice under the direction of physicians of authority in treatment of diseases of the skin. In neuropsychiatry physical therapeutics plays no small part in the treatment in institutions for the care of those suffering from diseases of the brain and nervous system.

Psychotherapy is a part of almost every therapeutic measure, but there is no branch of the healing art in which it is given so much credit as in physical therapy. We do not question that it plays a beneficial rôle, but believe this is often overestimated. Is it not possible that we underestimate the psychotherapeutic element in many drug treatments? It is desirable to determine as far as possible the actual influence on metabolism and pathology of the biochemical or biophysical action of each therapeutic procedure. Much of our therapeutic rationale is based on clinical trial. Each form of treatment must stand or fall on the ultimate result it produces in the control, prevention, or cure of disease. We all know of the "Cures that formerly cured the people but no longer cure," also the adage "Use the treatment while it yet cures." Many of the physical-therapeutic measures now in use, no doubt, may come in whole or in part under these headings. It is for us to determine by research and clinical trial which ones are worth while for the benefit of our patients.

* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 5, 1927.

Granger (*J. A. M. A.*, March 12, 1927) gives details of an ideal installation for a physical-therapeutic department in a hospital used as a teaching center. Some of the medical conditions treated by physical means in the Boston City Hospital include neuritis, myalgias, herpes zoster, peripheral paralysis, pleurisy, arthritis, hypertension, thrombo-angiitis obliterans, bronchitis, anemia, chronic constipation, and pneumonia.

Many of our medical schools are weaker in the department of materia medica and therapeutics than in any other, and are almost wholly lacking in training leading to the application of recognized physical-therapeutic measures. In most medical schools all the instruction offered in physical therapeutics is given briefly by the instructor in pharmacal therapeutics or by a short course, which is usually optional, given by a specialist in some one branch of physical therapeutics. There is great need for postgraduate instruction in all branches of physical therapeutics—baths, massage, exercise, and occupational control, not alone those measures requiring electrical equipment, instruction in the use of which is now obtainable only in short courses given by the manufacturers of apparatus, and they are naturally biased by the commercial enthusiasm of the sales department of their own company. Safe, suitable physical measures which can be applied with a minimum of equipment by the general practitioner are most desirable, but he must have training in the application of the treatment or he will meet with disappointment, and condemn what in the hands of a trained physical therapeutist might have been a successful treatment.

It is not our purpose in this paper to stress any special form of apparatus or to rate one physical agent above another, but to call attention to this branch of therapeutics which, as an adjuvant, not as a rival to other forms of treatment, is going to be and in fact is now a part of medical practice and needs careful study in order that physicians themselves may practice its application when desirable and not find it necessary to depend on a technician who, while he may understand the apparatus with which he works, does not have the knowledge of the pathologic condition to be treated or the drug therapy simultaneously given. In order that a proper rationale for physical therapeutics be determined, it is necessary to have both the knowledge of the biophysical, biochemical, and physiochemical action of the treatment and the state of the physiology and pathology of the patient.

The Council on Physical Therapy of the American Medical Association has formulated rules stating its position with reference to physical-therapy apparatus, covering (1) sufficient data as to the nature and construction of apparatus, (2) efficiency, (3) method of advertising and therapeutic claims, whether warranted or unwarranted, (4) the dangers, (5) standardization, (6) objectionable proprietary names, patented or protected, (7) useless devices, (8) policies of manufacturers.

The physical means found to have been of value are: (1) Heat, natural and artificial—diathermy, hot dry packs, hot-water bottles, electric pads, and the combination of heat with light and of heat with hydrotherapy. (2) Hydrotherapy—hot and cold packs, hot and cold douches, whirlpool baths, swimming pool. (3) Light—heliotherapy or sunlight therapy; artificial light, such as that from a mercury-arc quartz lamp, air or water cooled, a carbon or modified carbon-arc lamp, or an incandescent lamp; gamma rays of radium; roentgen rays. (4) Electricity—galvanic, faradic, and sinusoidal currents, static electricity, ionization, and a combination of these. (5) Massage—manual percussion; stroking, sedative type or brisk kneading type; manipulation, such as stretching, pulling, and corrective. (6) Therapeutic exercises—muscle-training exercises, passive and active; mechanotherapy; occupational therapy; games.

The Council on Physical Therapy will, we are confident, bring some order out of the chaos which exists in this branch of therapy and present to the profession such facts as are worth while in physical materia medica, including only such knowledge as is gained by physiologic and clinical experiment. This will tend to establish a definite physicodynamics on a plane comparative with the present pharmacodynamics. There are as yet few textbooks on any of the branches of physical therapeutics, and such literature as is available has no standard recognized nomenclature.

The application of the principles of the sciences of physics, biophysics, chemistry, physical chemistry, biochemistry, physiology, and pathology, together with careful diagnostic methods and the use of controls in clinical trials, should help to eliminate much of the empiricism and uncertainty which now exists. Premedical training in the above sciences and undergraduate and postgraduate instruction are necessary. Dr. Warthin's recommendation to change the course of premedical and undergraduate medical schools to meet this situation is very timely. His editorial in the *Annals of Clinical Medicine*, Feb-

ruary, 1927, sounds a very forward-looking and constructive note on this subject.

Conclusions

(1) Physical therapeutics is a necessary branch of the practice of internal medicine and surgery.

(2) There is a large field for the work now being carried on by the Council on Physical Therapy of the American Medical Association and for constructive investigation on the part of medical schools, hospitals, and physicians.

(3) Instruction in physical therapeutics in medical schools is entirely inadequate or nonexistent. This should be corrected by changes in premedical, undergraduate, and postgraduate instruction.

(4) There should be a department of physical therapeutics in every hospital, directed by a physician trained in physical therapeutics or conducted under the advice of a staff committee.

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THE APPLICATION OF PHYSICAL THERAPY TO ACUTE PULMONARY DISEASES

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Diathermy is the name used first by Nagleschmidt in describing this therapeutic application of high-frequency current. It is taken from the Greek, meaning to "heat through," i.e., heat developed in the deeper structures—not driven from the outside to the structures beneath.

The history of diathermy is unimportant for the purpose of this paper. In brief, it was first discovered by W. J. Morton and reported January 24, 1891. The demonstration of this current is usually credited to d'Arsonval, who first presented his findings in February, 1891. He was the first to construct a practical instrument and use it therapeutically. The current was first used in this country by Frederick DeKraft, and by F. S. Strong. Byron Sprague Price was the first to use diathermy in pneumonia.

Exponents of physiotherapy differ somewhat in their theories as to the action of this high-frequency current, but for the most part they agree that, so far as has been demonstrated, the therapeutic agent is heat, and heat alone, developed in the tissues through which the rapidly changing current is passed, and is caused by the resistance of the tissues to flow of the current. The degree of heat developed is influenced by several factors—the volume and quality of the current, the density of the tissues, the circulation, etc. It is practically agreed that the most intense heat is obtained at a point about equidistant from the electrodes when the plates are of equal area. The greatest heat is developed in the denser tissues—in the case of lobar pneumonia, in the area of consolidation.

This statement is not accepted by some investigators. Recent reports of experimental investigations show that deep structures in living animals exhibit but slight temperature increase, and that deep structures in the chest cannot be influenced to more than 4.2°F. temperature increase, although the surface temperature was raised to the point of burning the skin, and, further, that this increase in deep temperature is probably obtained only in animal experimentation, and never in actual treatment of a patient. Another observer, opposing this opinion, states that a deep temperature of approximately 110° F. can be obtained without unpleasant consequences to the patient.

These points of dispute are mostly due to difference in apparatus and technic, and a paper of this kind is not the place to discuss them. They are mentioned only to support the statement that the processes involved in the therapeutic effect of diathermy have not been definitely agreed upon. The physics, technic, and theories of the therapeutic application of diathermy may best be found in a textbook on this subject, provided that the proper textbook be selected.

This paper is presented from the standpoint of observation of results—rather than method—in 102 patients admitted to my service in Passavant Hospital, Pittsburgh, suffering from lobar pneumonia and its complications. All medication, general supervision, etc., were under my direction. The treatment by diathermy or other physiotherapy was entirely under the care of Dr. H. C. Westervelt, chief of the department of physiotherapy.

At the beginning of our study, diathermy was used as soon as the diagnosis was made and the area of consolidation localized, no attention being paid to the stage of the disease—a course still followed by some observers. The immediate results in many of the patients on whom diathermy was used late in the course of the disease was good, but in a number of instances a more marked toxemia developed, with the physical signs of pulmonary abscess, and the patients promptly died. This complication was not observed in any case where the treatment was started within seventy-two hours of the onset; so, for the past two years, we have not used diathermy in pneumonia cases admitted after the third day.

Of the 102 cases noted, 36 died. The great majority of deaths occurred before the ninth

day, but in a few cases, death occurred because of various complications, after the crisis.

One operator has reported a series of 67 cases treated with diathermy, with a mortality of only 12 per cent. Another reports 35 cases, with a mortality of 19.4 per cent. These patients were not selected as to the stage of the disease or the physical condition of the patient, many being reported as in extreme shock when treatment was begun. Our results on a much larger number of patients do not even approximate these startling figures. A mortality rate of slightly more than 35 per cent may not seem to mark much of any improvement over other methods of treating this disease, but a study of the reports of the Pittsburgh Bureau of Health will show that in this city we have a higher mortality rate for pneumonia than any other city in the United States. In 1925 the Department reports 627 patients treated in hospitals, with a mortality of 52.9 per cent; and during the same year, 1,408 patients treated at home, with a mortality of 40.3 per cent. Of all deaths in Pittsburgh that year, 26 per cent were from pneumonia. These figures should be considered when making comparisons with other statistics.

We know now that a very high percentage of patients suffering from lobar pneumonia have a bacteremia, the bloodstream infection occurring very early, in many cases before the diagnosis can be made by physical signs. P. W. Tomlinson has recently pointed out the grave significance of this condition, and reminds us that Dochez found that 77 per cent of the patients with positive blood cultures died, and 70 per cent of those with negative blood cultures recovered. In this type of infection it would be unreasonable to expect from diathermy any effect other than relief of pain and temporary improvement of the general condition. Certainly there could be no potent bactericidal effect from passing the current through the consolidated lung when the blood stream is infected.

In the favorable cases, the most desirable reaction was prompt decline of the temperature, gradually reaching normal by lysis. This result followed the first treatment, or at most the second. Patients failing to respond thus after one or two treatments rarely showed benefit from continuing diathermy application. Convalescence, was, as a rule, more rapid in the treated cases, and resolution more prompt.

Many patients were admitted with the physical signs of acute pleurisy, with the history of the usual onset of a lobar pneumonia, with clinical findings of this disease, although not sufficient physical signs to make a positive diagnosis of lobar pneumonia. Following a single application of diathermy, the temperature would drop to normal and the patient make an uninterrupted and rapid recovery. While we are not convinced, as yet, that lobar pneumonia may be "aborted" if treated by diathermy, we have had several striking instances of this type.

One of the outstanding results following the use of diathermy is the almost immediate relief of pain. This is true, not only in the severe pain due to the pleurisy so frequently associated with lobar pneumonia, but also in uncomplicated acute pleurisy.

While certain of the therapeutic effects attributed to diathermy—such as increased temperature, bactericidal effect, etc.,—are still in question and will afford ample ground for much disputation for some time to come, this prompt relief of pain, the great improvement in the general comfort, and consequent uplift of the morale of the patient, give to diathermy an increasingly prominent place in the treatment of lobar pneumonia and pleurisy.

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PHYSIOTHERAPY IN NERVOUS AND MENTAL DISEASES

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The term "physiotherapy" is relatively new, having been adopted by the office of the Surgeon-General of the Army only a few years ago to describe what had formerly been known among the medical profession as "physical therapeutics." The use of physiotherapy, however, is as old as the practice of medicine, and probably antedates all other forms of therapy except perhaps some of the ancient religious-healing customs. It is only within the last two decades that an attempt has been made to place physiotherapy upon a safe and sane scientific basis along with other divisions of therapy. Impetus was given to this work by the very beneficial results obtained from the use of various forms of physiotherapy in the treatment of war wounds during the period from 1915 to 1919. The development of the x-ray, with its great diagnostic and therapeutic possibilities, also stimulated in both the clinician and the research worker a desire to understand and utilize other physical forces at our command. Sad as it may seem, a third factor in the scientific development of physiotherapy has been the rapid growth of certain cults which employed physical measures as their chief form of therapy. In order to protect the health of the public, it has become necessary that we be familiar with

the various forms of physiotherapy which the cults exploit, so that we can use that which is of value and warn our patients against that which has no value or is harmful.

During the initial period of any new therapeutic or diagnostic measure, there is almost always a tendency for the pendulum to swing too far in the direction of optimism. This has been particularly true in the development of physiotherapy. Much of the early literature was written by men without medical training who were the representatives of manufacturing firms. Many extravagant claims and misrepresentations were made to the medical profession, and unfortunately much of this form of advertisement was disseminated in such ways that it fell into the hands of the laity. As a result of this advertising campaign, there has been a great amount of misunderstanding, misplaced confidence, and suffering produced. Probably no group of patients have suffered more and received less benefit during the early days of the development of physiotherapy than those with nervous and mental disorders. In recent years, however, neurologists in private practice, as well as those who are interested in the institutional care of nervous and mental diseases, have given a great amount of serious thought to the practical and beneficial application of rational physiotherapy in this division of medicine. We have reached the conclusion that the field of nervous and mental diseases offers great opportunities for gratifying results from the intelligent and judicious use of some forms of physiotherapy.

For the purpose of considering briefly some of the practical applications of this type of treatment, let us divide the nervous and mental diseases into the organic neurologic conditions, the neuroses, and the psychoses. A detailed discussion of the use of physiotherapy in the many forms of nervous and mental diseases is impossible, and we shall refer only to some of the principles that underlie its practical use in these three main groups.

The organic neurologic conditions are roughly either spastic, flaccid, or a combination of the two types. The spastic variety is characterized by the absence of atrophy and the presence of muscle hypertonus. The vascular insults incident to the arteriosclerotic period of life constitute the most common etiologic background. In any spastic condition, the lesion is in the central nervous system, and no form of physiotherapy has any actual curative effect. The only objective in its use should be to prevent contractures, to improve the patient's general physical condition, and to keep the muscles in the paralyzed extremities as firm and well-nourished as possible, until such time as nervous function returns. We have no right to expect more than this, but as an aid in accomplishing this end, massage, passive movements, and perhaps electrical stimulation are very helpful. These measures are particularly useful in the hemiplegias, because a large percentage of these cases recover, whereas many other spastic neurologic conditions are progressive, regardless of any therapy. There is no necessity for physiologic rest of the paralyzed extremities in a hemiplegia, because the trouble is not in the extremity itself. Mechanotherapy, therefore, can and should be instituted soon after the onset. After there has been sufficient return of function to permit voluntary movement, the patient should be encouraged to use the extremities as much as possible in such a way that all muscle groups will be exercised.

The flaccid type of organic neurologic conditions is made up chiefly of tabes dorsalis, anterior poliomyelitis, and the peripheral nerve lesions. No form of physiotherapy, except perhaps reëducational exercises, has any recognized value in tabes. In the peripheral nerve lesions and in anterior poliomyelitis, however, the mechanical, thermal, and electric forms of therapy are valuable aids. Unlike the spastic types of neurologic conditions, there is a necessity for absolute physiologic rest of the affected parts in the flaccid paralyses. This is particularly true in the peripheral nerve lesions, whether they be either inflammatory or traumatic. A great deal of harm can be done by too intensive treatment. Convective heat, either in the form of radiant heat or hydrotherapy, can be employed early without interfering with the rest. Massage should never be given until all tenderness has disappeared, and then it should be very light and gentle. Electric stimulation is helpful after all inflammation has subsided and there is evidence of some return of function. It should begin with weak galvanic current, which can be discontinued for the sinusoidal current as soon as the muscles will react to this form of stimulation.

Mechanical, electric, and thermal applications are useful aids in the management and treatment of the neuroses. Massage and physical exercises of various kinds are the most practical and most frequently employed forms of mechanotherapy, and are helpful from the standpoint of improving the patient's general physical condition and by holding his faith and interest. Electrotherapy in the form of ultraviolet rays or electric stimulation has a rather limited field of usefulness in the neuroses. There is a small group of cases,

however, that are not amenable to the ordinary forms of psychotherapy in which electricity is sometimes useful, chiefly because of its psychic effect. Thermal applications, mainly hydrotherapy and electric-cabinet sweat baths, are much more useful than either the mechanical or electric form. Because of the ease with which the temperature of water can be changed, hydrotherapy can be used as a stimulant, a sedative, or a depressant through its influence on the nervous system, both by its direct and by its reflex action. Perhaps the beneficial result from the use of various hydriatic procedures depends largely on their influence upon the sympathetic nervous system. It is a well-recognized fact that in the great majority of neuroses there is more or less impairment of function in the sympathetic nervous system which results in a great variety of symptoms. By the judicious use of baths, showers, packs, and douches of various kinds, the sympathetic nervous system can be stimulated or depressed, depending upon the temperature of the water used and the length of its application. The ease with which hot or cold baths can be taken makes them a very practical form of physiotherapy to use, and the neurologist in private practice finds the ordinary shower and tub baths that can be taken at home quite helpful in securing relaxation or stimulation. Great care must be exercised in the selection and adaptation of physiotherapy in each particular type of neurosis. It should not and cannot supplant the appropriate psychotherapy, but if wisely used in conjunction with the other accepted methods of treating the neuroses, it will prove a very valuable aid. It is an aid and nothing more, and we have no legitimate right to expect more than help from its use in the treatment of this group of nervous patients.

Physiotherapy is practically indispensable in the proper treatment of the psychoses. Continuous baths, electric sweat baths, and packs of various kinds are quieting and at the same time increase elimination in the excited patients. By their intelligent use we can secure physical rest without the excessive use of sedative drugs. Cold showers, douches, massage, and salt rubs are stimulating and beneficial to the quiet, retarded types of psychoses. During the convalescent period, it is desirable to employ exercises and physical recreations of some kind. To provide facilities for this type of physiotherapy, the department of occupational therapy has been instituted in the modern hospital. Ordinarily, I suppose, we do not regard occupational therapy as belonging to the field of physiotherapy, but strictly speaking, it is as much a part of physiotherapy as it is of psychotherapy. It is one of the most valuable and useful of all forms of therapy in the treatment of both the neuroses and the psychoses. We are coming to realize that the active mind is the healthiest mind, and that idleness is conducive to morbid thinking. The absolute rest cure is almost a thing of the past, and in its place we have substituted a therapy in which provision is made for some form of physical and mental activity as well as rest. Faulty thinking with its corresponding emotional reaction constitutes one of the chief obstacles in many of the neuroses and the psychoses. In order to counteract this tendency we try to keep the patient actively occupied both mentally and physically as far as is practical and possible. In accomplishing this end, occupational therapy has a large field of usefulness.

In addition to the beneficial physiologic effects of physiotherapy, it also has a definite psychic value, especially in the treatment of the neuroses. In this group of cases, the disturbance is largely in the emotional sphere. The patients are readily attracted by any form of treatment that has any element of mystery about it, and they do not always act in accordance with their intelligence. Many patients who have "tried" chiropractors or the Abrams ritual have sufficient mental equipment of a scientific nature to know that these things are objectively worthless, but they do not have sufficient control over the superstitious elements in their nature to enable them to follow the course of reason. Many nervous patients are very hard to control because of this tendency to follow the leadership of their emotions rather than their reason. We are often forced to find ways and means to compel them to comply with the requirements of scientific medicine. Every one who has used physiotherapy to any extent must have noticed the strong appeal it has, particularly to the nervous cases. Since this is true, we can cause physiotherapy, in addition to its own intrinsic effects, to exert by means of its material appeal a powerful influence to induce the patient to carry out faithfully all other accessory measures.

The danger in the use of physiotherapy in nervous and mental diseases lies in the tendency of the patient, and in some instances the physician, to place too much confidence in it. If the patient expects it to work some miracle on him, he is in danger of being disappointed. If the physician puts all his faith in it and feels that it absolves him from the necessity of other forms of therapy, he will surely fail. It is only when physiotherapy is used with a clear understanding that only help and not a cure can be expected

that it is safe. Viewed in this light and used with this understanding, it is a valuable asset in the management and treatment of a large percentage of mental and nervous diseases.

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ABSTRACT OF DISCUSSION

Of Symposium on Physical Therapy

Henry C. Westervelt, M.D. (Pittsburgh, Pa.): Physical measures are for the general practitioner. The bitterest condemnation of physical therapy comes from two groups—those who have used it without preparation, and those who have not used it at all. The actual results in carefully diagnosed cases, with the scientific application of the indicated measures under the direction of a trained physician, speak for themselves. The files of the Army, the Navy, and the Public Health Service are full of clinical records which show the invaluable service rendered by the Division of Physical Reconstruction in thousands of cases of practically every known form of disability. The surgeons-general of these great services are frankly enthusiastic in their recognition of the value of physical measures as used in the Government service.

What physiotherapy needs at this time to make it of real value to the profession is intelligent, unprejudiced investigation, and unless all signs fail, this is in process of development. The American Medical Association, through its Council on Physical Therapy, has already made substantial progress, and a checking up and supervision of the activities of hospital and private clinics may be expected, as well, perhaps, as of the very competent research departments of certain of the large manufacturing concerns, to the point where absolute dependence may be placed by the practitioner upon methods and results in physiotherapy when reported through accredited channels. Already several of the leading medical colleges (Pennsylvania, Wisconsin, Michigan, Northwestern, Jefferson, Harvard, Leland Stanford, McGill, and Columbia) have departments of physical therapy in charge of faculty members, and there is little question that in the fairly near future all class-A institutions will include physiotherapy in the basic medical curriculum.

Our patients demand the last word in progress and efficiency, and there is nothing to prevent each of us from investigating for himself. There is an amazing range of utility in already well-proved physical measures, with a certainty of results which challenge comparison. Let us take time to look into these things. Let us be honest in our convictions, but let us have the courage of our convictions. Let us be conservative and demand conservatism; let us hold fast to hard facts, but let us *keep moving.*

William W. Richardson, M.D. (Mercer, Pa.): If a mental patient has general massage and proper hydrotherapeutic treatment in the morning, and some occupational therapy in the afternoon, great progress is made in objectifying his thoughts and his life. This does not interfere with other treatment. Hydrotherapy is probably the most important type of physiotherapy, in addition to occupational therapy, particularly in the toxic psychoses. If this is used in connection with elimination by the gastro-intestinal tract and other methods, it is of great value. In the drug cases, in which so many disagreeable symptoms follow withdrawal of the drug, the patients all unite in saying that nothing helps them so much as prolonged neutral baths, and in acute maniacal cases these baths are of the greatest value, as are the prolonged neutral packs.

J. Torrance Rugh, M.D. (Philadelphia, Pa.): We are prone to think of infantile paralysis as affecting the muscles, but this is not the primary involvement. Every structure in the body is involved, but chiefly the motor cells in the spinal cord, and it is these cells which must be looked after. People always want to have the muscles massaged and exercised. When electricity is applied, the motor cells are stimulated and restoration to normal delayed unless the sedative type of electricity is used. I could cite case after case which has been treated by rest alone, without the early use of massage and electricity, and they support the statement that nothing will take the place of rest in promoting restoration of these cells in the cord. Stimulation of the cells delays or jeopardizes recovery. Rest treatment should be continued for from six months to a year, though it is sometimes difficult to carry this out because of the opposition of the parents.

Alexander McL. Milligan, M.D. (Pittsburgh, Pa.): In pneumonia, the sooner the patient goes to bed and the sooner diathermy is applied, the sooner good results will be secured. I have seen a patient with a temperature of 105.2° F. put to bed immediately following the first chill and given diathermy, resulting in a normal temperature the next day followed by complete recovery. If this treatment is postponed for three or four days, neither diathermy nor any other treatment accomplishes anything. In the epidemic of influenza that occurred during the war, when victims were dying by thousands, if the patients went to bed immediately they lived, but if they remained up for twenty-four hours they died.

Physiotherapy in cases not involving any infectious process such as infantile paralysis (for instance, in the case of a broken limb) is a means of securing a fine, rapid result. I had both bones of my forearm dislocated backward at the elbow in an intercollegiate match, and immediately started massage with active and passive movements, and was back on the wrestling mat in ten days, with a beautiful result.

Symposium On the Use of Light Therapy in Children *

ULTRAVIOLET THERAPY IN THE TREATMENT OF SKIN DISEASES IN CHILDHOOD†

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Without light there is eventually no life. The absence of light may produce disease, and its presence in proper dosage and proportion may eradicate disease. In health and disease, therefore, we must regard the necessity of light. That, in a word, practically summarizes the present status of light therapy in the medicine of today. With the exception of the sun's rays, ultraviolet therapy probably offers the most potent remedial agent introduced into medicine

* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

† From the Department of Dermatology, University of Pittsburgh.

since the advent of the roentgen ray, and, like other innovations in treatment, enthusiasm for its use has gained such momentun that today the application of the ultraviolet ray has been adopted by all branches of medicine; but its future place must be secured by time, experience, and therapeutic efficiency alone before final judgment can be passed.

Although we realize and possibly have learned to surmise its undeveloped possibilities, yet we must not allow ourselves to become overconfident in its application. Within the past few years, too many articles have appeared in which the authors have allowed their enthusiasm to outrun their clinical faculties and in some cases even their common-sense judgment. This is especially true in dermatology where specifics in treatment have been lacking, and the modern tendency to substitute a newer and easier mechanical device for the less spectacular, equally efficient, long-established forms of treatment has offered the ultraviolet ray a position of advantage.

There is no doubt that ultraviolet therapy is now recognized and accepted as a remedial agent whose efficiency is modified by enthusiasts on the one hand and magnified by the propaganda of manufacturers on the other, which further accelerates the idea that it is a panacea for treating all diseases.

Generally stated, ultraviolet therapy differs little in its action and technic in the child and adult, save that in the former more skill, experience, and patience are required for its application. Better to illustrate the mechanism of this type of therapy and the patient's reaction to it, the effect of these rays upon the skin may be compared to a photographic plate which requires a developer to complete the negative. The developer in this case is the blood vessels and the circulating blood which carry food and potential energy to the tissues of the body. The ultraviolet rays acting upon these manifest their action systemically and locally. Systemically, the effects upon the patient are registered by production of augmented cellular metabolism; altered blood (potassium and calcium) chemistry, the rays acting as a mordant for calcium; increase of cellular resistance, leukocytosis, visceral anemia, and a sense of well-being. Locally, they produce skin irritation, erythema, vesiculation, increased sweating, desquamation, and pigmentation. The antiparasitic properties are questionable, and depend upon the dose administered.

The dosage depends upon three factors; namely, the make-up of the patient, the pathology present, and the physiologic action desired. Blonds are more susceptible and brunets more resistant to its action. Patients presenting allergy suffer toxic reactions more rapidly. As in all dermatologic manifestations, the physiologic result desired is an absorption and resolution of the pathology present, together with the alleviation of all subjective symptoms. Therefore, the stage, type, and extent of pathology govern the treatment applied, which in turn controls the physiologic effect obtained. For convenience the dosage may be divided into:

A. Stimulating—mildly graduated, frequently repeated generalized exposures, producing pigmentation without erythema (given at one-, two-, or three-day intervals).

B. Suberythema—concentrated, usually local exposures, producing erythema and desquamation without vesiculation (given weekly).

C. Erythema—concentrated, usually local exposures, producing erythema, vesiculation, and desquamation (given weekly).

A warning must be sounded against the possibility of overtreatment. A mere sunburn (erythema solare) is not the only consequence of exposure to light therapy. More serious local and general reactions are within the range of possibility, and should not be disregarded. Attention is called to the fact that localized gangrene, ulceration, keratosis, and severe secondary pyodermias may result from overexposure locally; while anorexia, fatigue, restlessness, general debility, insomnia, nervous irritability, loss in weight, and progressive weakness may result from overtreatment by generalized exposure. In the treatment of children this type of therapy should be selective, and a testing dose is advocated to gain knowledge of the child's tolerance or susceptibility. A mild and moderate susceptibility of children to the rays of light in the violet end of the spectrum is not at all uncommon. The possibility of severer reactions is not at all rare, and external cutaneous lesions in such patients are aggravated rather than relieved by light therapy. The possibility of the development of photosensitive compounds under abnormal conditions might result in photodynamic effects from radiation which is generally regarded as innocuous. Therapeutic radiation of the body in childhood calls for selection and professional intelligence, rather than the panaceal methods of treatment now in use.

Table of Results

Disease	*Dosage*	*Result*
Hydroa æstivale	B-(A)	Fair
Psoriasis	B-C	Fair-good
Impetigo contagiosa	B	Poor
Alopecia areata	C	Good-excellent
Seborrheic eczema	B	Fair

Disease	*Dosage*	*Result*
Herpes zoster	B	Fair
Tinea corporis	X	X
Tinea capitis	X	X
Tinea (plantar and palmar)	B-C	Fair
Ichthyosis	A	Poor
Eczema	B-C	Fair-good
Ecthyma	B-C	Fair-good
Urticaria	A	Poor-fair
Prurigo	B-(A)	Poor-fair
Acne vulgaris	B-C	Fair-good
Scrofuloderma	B-(A)	Fair-excellent
Syphilis	X	X
Furunculosis	B-(A)	Fair-good
Scabies	X	X
Lupus vulgaris	B-(A)	Poor
Dermatitis venenata	B	Fair
Pediculosis capitis	X	X
Pyodermia	B-(A)	Fair-good
Acute eczematoid dermatitis	B-(A)	Good

(A) Indicates generalized exposure in conjunction with local application.

(X) No therapeutic indication.

An analysis of this chart presents somewhat discouraging results. It classifies ultraviolet therapy as a nonspecific form of treatment, and points out the necessity of selective application along with regulated dermatologic procedures. That it is a valuable addition to the dermatologic armamentarium cannot be denied, but it should not be used as a panacea for all skin diseases.

Conclusions

(1) Ultraviolet therapy is a valuable addition to the dermatologic armamentarium.

(2) It must be used in conjunction with recognized dermatologic procedures.

(3) It is not a specific for any given dermatologic manifestation.

(4) Overdosage must be guarded against.

(5) Its application requires medical intelligence.

5026 Jenkins Arcade.

LIGHT THERAPY IN DEFICIENCY DISEASES OF CHILDREN

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Light therapy and its importance to man dates back to the ancients, but its extensive use is of comparatively recent date. When it was discovered that rickets could be produced experimentally in white rats, and that it could be definitely diagnosed and its course clearly followed by roentgenograms and further confirmed by chemical examination of the amount of calcium and phosphorus in the blood serum, progress in light therapy went forward by leaps and bounds. For a full review of the literature see the article by Shultz.[1]

"The range of so-called radiant energy is very broad, extending from radiations having waves which are miles in length, on through radio frequencies, infra-red (popularly called heat), visible, ultraviolet, roentgen, and gamma rays, until the cosmic rays recently discovered by Milliken are reached."[2] The wave lengths of radiations other than those in the case of electric waves are generally recorded either in terms of the Angström unit or in millimicrons. An Angström unit (A. U.) is one ten-millionth part of a millimeter. The micron (mu) is ten times larger than the Angström unit.

Type of Ray	*Wave Length in Angström Units*		
Gamma rays from radium	0	to	0.1
Roentgen rays	0.1	to	500.0
Extreme ultraviolet rays	2,000.0	to	3,000.0
Near ultraviolet rays	3,000.0	to	4,000.0
Visible light rays	4,000.0	to	7,800.0
Infra-red rays	7,800.0	to	50,000,000.0
Electric and radio waves	50,000,000.0	to	miles

The wave lengths of visible sunlight range from 7,600 to 3,900 A. U. The ultraviolet rays[3] of sunlight extend from 3,900 to 2,900 A. U. Ultraviolet rays in July at midday constitute from less than one per cent to five per cent[4] of the sun's rays, and in the winter months but five per cent of this amount.[5] Bundesen[6] found comparatively little ultraviolet radiation of known physiologic significance in the sun's spectrum during the winter months in Chicago. These ultraviolet rays produce the most profound influence on the human being. As Hess aptly puts it, "The young, rapidly growing infant thrives better when deprived of the visible rays than when deprived of the ultraviolet rays of the sun. What is known regarding the action of these short radiations may be summed up in a few words. It has been repeatedly shown that they possess exceptionally little power of penetration, and that the dust, moisture, or smoke of the atmosphere suffices to absorb the shorter ultraviolet rays. The ordinary window filters out all but the longer and less potent of these rays."

As shown by Hess, the ultraviolet rays from 3,130-3,020 to 2,970 A. U.[7] are effective in the treatment of rickets, but more effective is a second band of rays less than 2,900 A. U. The radiations shorter than 2,900 A. U.—waves shorter than found in the sun's rays—produce in animals a more intense antirachitic effect than the most potent region of the solar spectrum. This result is in accord with clinical experience. Hess says, "It would seem that the amount of the effective solar radiation is so small in the winter that, even if we substitute quartz panes for ordinary window glass, it will be insufficient to afford protection or to eradicate rickets.[8] Quartz, fluorite, and distilled water do not ab-

sorb ultraviolet rays. Ultraviolet rays are increased by snow, ice, water, and white surfaces by reflexion. The ultraviolet rays have but little penetration, five tenths to one mm., being absorbed by the hemoglobin, and produce marked chemical changes at the point of absorption."

As a result of the foregoing statements, there has been very extensive use of ultraviolet radiations produced by artificial means when neither lack of clear weather, dust, altitude, smoke, nor time of year was acting to diminish the efficiency of the sun. There are two main artificial sources of ultraviolet radiation; namely, the carbon arc lamp and the mercury-vapor quartz lamp. In America, the air-cooled mercury-vapor quartz lamp has been much more extensively used. It gives the richest ultraviolet radiation down to 1,850 A. U., has much less associated heat, and while of somewhat higher initial cost, is much cheaper and easier in its operation. In further discussion I shall confine my remarks to this type of irradiation.

The older lamps, owing to a gradual blackening of the quartz, lost some of their efficiency, but the newer burners of burnished quartz inside and out, especially those with a tungsten electrode, if cleaned with carbon tetrachlorid,* lose little of their intensity owing to use. Coblentz and his workers, after making a test in the United States Bureau of Standards, state: "On the modern quartz lamp, over a period of two years, there was no appreciable decrease in the ultraviolet component radiation relative to the total during the seven hundred hours' usage."[9]

Six per cent of the total radiation from an air-cooled mercury-vapor quartz lamp is of wave lengths shorter than 290 millimicrons, which are absent from the solar rays. They have a high germicidal action,[10] and are the strongest anti-rachitic rays. In deficiency diseases, during the summer sun baths may be used successfully if there are enough clear days, but when days are cloudy, and during the winter, artificially produced ultraviolet rays are more practical.

Owing to Rollier's technic of giving sun baths and the stress he laid on the importance of producing tanning of the skin, the earlier workers with the air-cooled mercury-vapor lamp tried to produce general tanning of the skin, the aim being to give as much ultraviolet light and produce as much tanning as possible without any marked erythema.

Mayer[11] says: "That increased pigment production necessarily means an increased tendency to healing is not generally accepted. Similarly, however, the maintained production of an erythema is not a necessary accompaniment of improvement. Patients who failed to develop pigment have responded favorably to treatment, just as patients who developed a strong pigment often failed to become healed. Curative results in light therapy may be brought about without the production of marked cutaneous burn, as only the first degree of redness need be produced."

Edinow,[12] in an article on dosage, checking his results by experimental data on rabbits, proved that the bactericidal power of the blood was increased best by the minimum dose which would produce an erythema of the skin with each application and with a definite relation to the area of the skin radiated at each exposure. He says, "In all these experiments the surface area of skin irradiated per kilogram weight of the animal appeared to be a more important factor than the time exposure or the intensity of the ultraviolet rays, provided the erythema dose was maintained." The erythema dose varies greatly with the intensity of rays, duration of exposure, distance of lamp from skin surface, and individual sensitiveness of the skin. He advocated exposing one of four areas—back, chest, front of legs, or back of legs—to a minimal erythema dose on alternate days, giving three treatments a week. Thus each area had a rest from radiation for eight to ten days. He says, "Even after thirty to forty treatments, an erythema could be easily obtained by an exposure of an area of skin for ten minutes. By resting each area of skin ten to fourteen days between each exposure, the skin is continually maintained in a light-sensitive state."

Mayer,[13] who has had ten years' experience in the use of quartz-light therapy in tuberculosis, states that the advisability of the method of irradiation advocated by Edinow and Hill has not as yet been proved. Mayer uses an arbitrary exposure with a current of 110 volts and five amperes, beginning at thirty-six inches for three minutes, making two exposures front and two back, centering over chest, back, and front and back of legs, to cover as large an area as possible. He increases the exposure one minute daily up to twenty minutes, with the room temperature maintained at seventy degrees. Ventilation is employed so that the patient senses the movement of air. Then the burner is brought one inch closer every other day until eighteen inches is reached.

The question of dosage is still open. Hobert,

* The older method of cleaning the outside of a quartz tube with grain alcohol often deposited a film of oil from the hand, which became fused into the quartz and darkened the burner, greatly reducing its efficiency, often down to 50 per cent, after 200 hours' burning. Carbon tetrachlorid, being a fat solvent, overcomes this, especially if the tube is polished with a soft cloth after cleaning.

quoted by Mayer, found that in anemic rats careful irradiation caused a rapid increase in erythrocytes and hemoglobin, but too strong irradiation destroyed blood cells.

Mayer emphasizes the importance of fresh air: "From an apparently lifeless, toneless, and flabby skin, exposure to light often produces a soft, velvety, colorful tissue. Under exposure to solar irradiation and to artificial sources of light, especially with combined exposures of moving air, remarkable muscle tone has been produced in unused muscles despite prolonged application of immobilization casts."[13]

The action of ultraviolet light is produced by absorption through the cutaneous cells, nerves, and blood vessels. It has been shown that ultraviolet light by itself does not increase metabolism.[14, 15] Doubtless, increased metabolism caused by the air baths which Rollier used in conjunction with his heliotherapy was responsible for the splendid muscle tone of his patients. Mayer[16] emphasizes this, stating: "With lamps, moving air from outdoors should be employed if possible, as air movements produce increased heat radiation and conduction and better respiration and excretory function of the skin. Moving air acts directly on the vasomotor system, stimulating the superficial capillaries, producing a hyperemia, and in turn a depletion of the cutaneous circulation. This, acting as a massage, may be responsible for the development of muscles otherwise immobilized in treatment. An exposure may well be utilized with artificial light therapy through satisfactory ventilation of the treatment room."*

Ultraviolet irradiation increases the hemoglobin and red blood cells when there is a preëxisting anemia. Mayer states that "The rate of growth may be increased under the action of light. The increased physiologic action of the skin under exposure to light may be presumed; namely, increased respiratory, excretory, and protective powers." Edinow[17] and Clark[18] show that erythema of the skin is accompanied by a transitory increase in the bacteriophagic and bacteriolytic powers of the blood serum and leukocytes for streptococci, pneumococci, and staphylococci, and also an increase in the lymphocytes in the blood. Sanford,[19] in fifty newborn infants, found that ultraviolet irradiations lowered the bleeding time and increased the platelets, but not permanently. Hall[20] states: "Ultraviolet rays have a profound effect upon the metabolism of the body; they stimulate vital processes through their action upon the blood. They are of value in rachitis, tuberculosis, and also in depressed and debased states of health not recognized as specific disease. The ultraviolet radiation produces just that stimulus required to the natural defensive powers of the body which enables it to combat disease."

A large number of children and infants fail to gain or gain slowly and have an associated poor appetite. Many of them are cases of ultraviolet-light deficiency, which is not hard to understand, as ultraviolet rays are always deficient during the winter in the temperate zone. Ultraviolet irradiation promptly cures them. Children, after a summer at the shore or in the mountains, return to school with splendid tone and vigor, but as the year goes on have less and less energy and end the year tired and anemic. I have treated a number of such children with ultraviolet irradiation, and they retained their tone and health throughout the school term. If ultraviolet irradiation were given to healthy children throughout the winter, preventive medicine would be carried out by maintaining a high bactericidal power of the blood, preventing anemia, maintaining a high iodin content in the thyroid, and when treatments are given in circulating air, increasing metabolism.

Faber and Bloch[21] state: "Light, and particularly the ultraviolet rays, has a stimulating effect on the organism, which chiefly benefits those functions that are depressed." Bloch and Faber found in cases of diabetes in which all the islands of Langerhans were not destroyed that irradiation with ultraviolet light produced a lowering of blood sugar corresponding to three or four units of insulin.

In rickets, due largely to the studies of Howland, Marriott, Kramer, Benjamin, and many other workers, it has been shown that there is a marked diminution of phosphorus, but when complicated by tetany there is an associated low blood calcium also. As several writers have shown, it is not due to a deficiency of phosphorus and calcium in the diet; it must be due to either faulty absorption or retention. The studies of Orr, Holt, Wilkins, and Boone[22] give a good review of the literature, and show that in rickets "one must assume that, as a result of the action of the ultraviolet rays on the skin or on the blood in the capillaries of the skin, the physical or chemical condition of the blood is in some way altered. As a result of this alteration, a greater absorption of calcium and phosphorus from the intestine is produced. Since much of the calcium in the intestinal contents is bound by the phosphorus, it seems altogether probable that these

* In my office I have installed a large hot-water coil under the floor. By boxing this in and connecting it by a flue to outside air, and by means of registers in the floor and air ducts from the bottom of the room to the roof, I have a continuous supply of fresh, warm, circulating air.

two elements are absorbed together, and that ultraviolet light increases the absorption of both of them rather than diminishes their excretion."

Weyman,[23] reviewing the results of ultraviolet therapy in the clinic of the Children's Hospital in Boston, covering 175 cases of rickets, found that the combination of cod-liver oil and ultraviolet light hastened the healing of rickets more than ultraviolet rays or cod-liver oil alone. He says, "In my experience it has been impossible to give the premature infants sufficient cod-liver oil to prevent the occurrence of this manifestation (craniotabes), or to prevent the early occurrence of rickets." Tisdall[24] regards ultraviolet-ray therapy of the air-cooled mercury-vapor quartz light as absolutely specific in the treatment of tetany and rickets. Elliot[25] and, more recently, Wilson[26] have found a very large percentage of rickets in both breast-fed and bottle-fed infants. Wilson, in his concluding remarks, states: "Ninety-seven per cent of infants born in the summer and ninety-one per cent of infants born in the winter who received cod-liver oil showed roentgenographic evidence of rickets. Ninety-seven per cent of infants born in the summer and ninety-eight per cent of infants born in winter who did not receive cod-liver oil showed roentgenographic evidence of rickets. The nature of the relation of cod-liver-oil therapy to the development of rickets, as observed in these studies, would seem to be one of control rather than of prevention." The literature is filled with references to the use of ultraviolet light in rickets, and it is universally mentioned as a specific superior to cod-liver oil.

An article by Vollmer[27] is most enlightening. Twins, probably univitelline, had grave rickets, notwithstanding a previous diet rich in vegetables and cod-liver oil. They were treated for fourteen days with artificial sunlight, reinforced by the administration of eosin. The food contained practically no vitamins. After this, vitamins were added to the food of one of the twins. The other recovered under continued irradiations more rapidly than the one with irradiation plus vitamins.

Greenebaum, Selkirk, Otis, and Mitchell[28] found that diet in the prenatal period would not prevent rickets, but had a controlling influence on the development of the disease in the offspring. Hess and Weinstock[29] showed that administration of cod-liver oil to the mother during pregancy and lactation would not prevent or cure rickets in the infant. It is evident, therefore, that both methods have failed as a means of rickets prevention.

Hess,[30] in a series of experiments on irradiating nursing mothers with an air-cooled mercury-vapor quartz lamp, concludes: "Ultraviolet irradiation of a nursing woman brought about a marked increase in the antirachitic potency of her milk. It is suggested that such irradiation be employed in order to protect infants from rickets and nursing women from an excessive drain of calcium and phosphorus." Hartman and Gerstenberger,[31] by irradiating the mother during lactation, have been able to cure two active cases of nonhealing human rickets.

Gerstenberger, like Faber, questions whether the antirachitic factor is the vitamin D, and says, "Is it not strange that the established vitamin-deficiency diseases, such as xerophthalmia, beriberi, and scurvy, are so rare in infants fed human milk from mothers and that rickets is so common? Do these facts not suggest that nature expects the human skin to be exposed to sunlight in order that the human infant may grow in a physiologic manner?"

As shown by Hess,[32] rickets tends to recur, so that ultraviolet light and cod-liver oil should be continued after all signs and symptoms of the disorder have disappeared.

Royster says,[33] "Experiments have shown that not only can infants be cured by the rays of the sun and those of the quartz lamp without any change in diet, but, what is more important, that the disease can be prevented by the same means." Hess says,[30] "It has been firmly established that exposure to ultraviolet radiation, whether through the rays of the sun or artificial sources, regularly affords protection from rickets to animals and to human beings."

Hess[34] and his coworkers and numerous other observers have tried to irradiate foods with ultraviolet rays, which offers a cheap means of supplying an antirachitic factor in a presentable form. In a recent article, Hess[35] showed that while dried milk irradiated for a half hour at a distance of one foot had good antirachitic properties which were retained for at least six months, it also had a peculiar taste and odor, and the fat vitamin A and antiscorbutic vitamin C were destroyed. By raying the dried milk two minutes at a distance of one foot, the odor and taste of the milk were not altered, nor were vitamins A and C destroyed, but the antirachitic factor was just as potent as when the milk was rayed for one hour. He showed that cholesterol could become antirachitic by irradiation, and that this was due to the ergosterol in it. He irradiated dried yeast, and found it a very satisfactory antirachitic in both animals and infants. Five tenths to one gram daily in milk was given to infants.

Howland and Marriott[36] showed that in tetany and spasmophilia there is a uniformly low con-

centration of calcium in the blood serum, and that by the administration of calicum there is quick relief of symptoms followed by a gradual return of the blood calcium to the normal level. Various observers used calcium chlorid, calcium lactate, ammonium chlorid, and hydrochloric acid with good results. The relief of symptoms in infantile tetany is either slow, with a rather long period of active symptoms, or, when hydrochloric-acid-producing substances are used, is rapid but of short duration, the hyperexcitability tending to recur very soon after cessation in many cases. Huldinsky[37] proved that tetany could be relieved by ultraviolet rays, and Sachs[38] reported fifteen cases clinically cured by means of ultraviolet light. Hoag,[39] in a careful study of eleven cases treated by ultraviolet light from an air-cooled mercury-vapor quartz lamp, found all the cases showed steady clinical improvement, with a parallel increase in the serum calcium to normal. Hoag found that in tetany the average treatments with ultraviolet light took thirteen days, but in control cases other forms of treatment required more time. Bloch and Faber[40] state: "At first using a carbon arc lamp, we soon abandoned the treatments. The strong light and heat acted too drastically on the children, who reacted with perilous attacks of laryngeal spasm or eclampsia; therefore, we have employed the much less luminous mercury quartz light, which gives less heat. In all cases a marked effect on the blood calcium is observed and concurrently an almost instantaneous cure of the disease in less than a fortnight." Lesne and Torpin,[41] reporting on fifty cases, found calcium chlorid and ultraviolet rays to be a most effective treatment of tetany. Scott and Usher,[42] reporting on twenty-one cases, state: "Frequent treatments with a mercury-vapor quartz lamp give the quickest and most permanent results. Both tetany and the accompanying rickets are cured."

In xerophthalmia, ultraviolet light has no curative action, as it has been definitely proved that it oxidizes and destroys the fat vitamin A which is essential for the cure of this disease. In pellagra, ultraviolet light plays but a small secondary rôle, and the same is true in beriberi and scurvy.

Conclusions

Ultraviolet light from the air-cooled mercury-vapor quartz lamp is a specific in tetany, rickets, and spasmophilia, and is very valuable as a general tonic in depressed bodily states such as anorexia and some cases of anemia, and in poor nutrition. Ultraviolet light holds out some hope as an aid in preventing the development of diabetes, and by its general tonic effect it is a valuable help in preventive medicine. The experimental and clinical data are so definite and convincing with regard to the value of ultraviolet light in deficiency diseases of children that there can no longer be any doubt as to the practical value of this form of treatment.

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LIGHT THERAPY FOR EXTRAPULMONARY TUBERCULOSIS IN CHILDREN*

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The use of sunlight as a source of ultraviolet radiation was brought to our attention in recent years by the work of Rollier at Leysin. To him we are indebted, first, for showing us the remarkable healing properties of heliotherapy in this type of disease and, second, for giving us a systematic plan for its administration. Rollier worked high in the Alps where the combination of cold air and warm sunlight with a large proportion of ultraviolet made conditions ideal. The demonstration that forms the basis of these remarks was conducted in the suburbs of Philadelphia and was designed in part to show what could be done for these patients under the relatively unfavorable conditions that prevail in such a locality. The results that we have obtained can therefore be duplicated in any part of the State, at least in so far as they are dependent on general climatic and atmospheric conditions and altitude.

Light is an elastic term, and for our present-day usage we have stretched it to include those regions of solar radiation that stretch above and below the small band which we recognize as visible light. It is to one band of this invisible light, however, that attention has been chiefly turned as the curative agent in all light therapy. We are told that the ultraviolet fraction of sunlight is the only factor of value, and that the purer the source of ultraviolet the greater will be the therapeutic benefit. It is this teaching that has resulted in the development of the concentrated sources of ultraviolet radiation, especially the mercury-vapor quartz burner and the tungsten arc. The high plane to which these sources have been developed and their relative cheapness and availability has led to their extensive use in all sorts of conditions. It has caused us to concentrate our thoughts and efforts on this band of solar radiation and to disregard more or less the many other factors in sunlight. But Rollier uses heliotherapy, Gauvain stresses cold air and sea bathing, and Hess has shown that the amount of ultraviolet radiation necessary to prevent rickets is only a very small part of the total radiation.

Heliotherapy is a broader term than ultraviolet radiation, and implies more than the use of the sun as the source of ultraviolet. As used by Rollier it includes fresh-air baths to the skin itself and a certain amount of rest, in addition to a well-balanced diet. Of these factors sunlight is the most important, but the fresh air baths are almost as valuable. We must note here certain differences between heliotherapy in the high Alps and in the environs of Philadelphia. First must be considered the relatively high humidity of this part of the country as contrasted with the mountains, and second, in the Alps in winter, while the air temperature may be quite low, the power of the sun is relatively great and the total amount of radiation is greatly increased by the great snow fields. These differences necessitate certain modification of the use of heliotherapy which will be taken up under technic.

Before we go further, it may not be out of place to recall the major effects, both general and local, of heliotherapy. We are all familiar with the effect of the ultraviolet part of the spectrum on the skin itself—the sunburn and subsequent tanning. We should avoid the one and strive for the other, for there is considerable evidence that the ability to develop pigment is a rough indicator of the benefit being derived. Other findings that can be attributed to the sunlight are an enrichment of the blood, both in its cellular elements and hemoglobin content, a stimulation of the skin as an important organ of the body, and certain effects on ulcers, sinuses, and other superficial lesions. These latter generally show an increased activity at first, as evidenced by increase in discharge, but this is soon followed by a marked diminution in secretion, and many of them promptly dry up. The cold-air baths have a marked stimulating effect on metabolism, resulting in a gain in weight through the production of a firm musculature even in spite of disuse. The skin becomes soft, smooth, and velvety. One of the most striking effects of heliotherapy is the change that takes place in the general disposition of these children. It is remarkable to see the disagreeable, fretful, crying child that is admitted after long confinement at home or in an institution change in a few short weeks to a happy, laughing, contented individual whom one has difficulty in considering an invalid. In the long tedious years of enforced rest that many of these children must go through, this change alone is worth any effort.

Practically all these changes are the indirect result of the action of sunlight and fresh air on the skin. We know that light, and especially the ultraviolet band, penetrates only a short distance into the exposed skin, and therefore can

* From the Home for Consumptives, Chestnut Hill.

Fig. 1. Case 1, December, 1925.

Fig. 2. Case 1, September, 1927.

have little if any effect on deep-lying foci of disease. The effect on these deep-lying foci must be an indirect one from the absorption of energy by the skin, and it is easy to understand that the greater area of skin exposed, the greater the amount of energy absorbed. This does not mean that local superficial lesions should not be exposed but rather that, if exposure is limited to such lesions, the more marked benefit from the total body bath is being lost.

For the type of disease under discussion it is the general consensus of opinion that natural heliotherapy is of greater therapeutic value than any of the other types of more concentrated ultraviolet radiations. Unfortunately, however, in the eastern United States there is a considerable period in the year during which the sun does not shine or is so weak as to be of little practical value. In Philadelphia this period extends roughly from the first of November to the first of March, but varies somewhat in different years. During this period some substitute source of radiant energy is desirable. This source should approximate as closely as possible the sun in its distribution of energy. No source of energy at present available entirely satisfies these requirements, but one of the various types of open carbon arcs is the best that can be secured. In using such a source indoors during the winter, all too often the other great factor in heliotherapy, cool fresh air, is entirely neglected, and the treatment room is hot and stuffy and full of the odors of electrical machinery and perspiring humanity. Half the possible value of treatment is lost under such conditions. An adequate source of radiant energy and a properly ventilated treatment room, while not producing the results obtained in the summer, still is capable of holding any ground gained during the summer and even adding a little do it, as can be seen by the improvement in those cases starting treatment under artificial conditions. I might say here that if a mercury-vapor burner is the only source of ultraviolet available, better results can be obtained by reinforcing it with some source producing visible light and some infra-red rays.

Heliotherapy is not a specific cure for any type of tuberculosis. Short-wave-length ultraviolet rays are bactericidal to organisms directly exposed to them, but these rays are so readily absorbed that it has been said, as a practical illustration, that if two tubercle bacilli were superimposed and irradiated, the top one would

Fig. 3. Case 2, February, 1926.

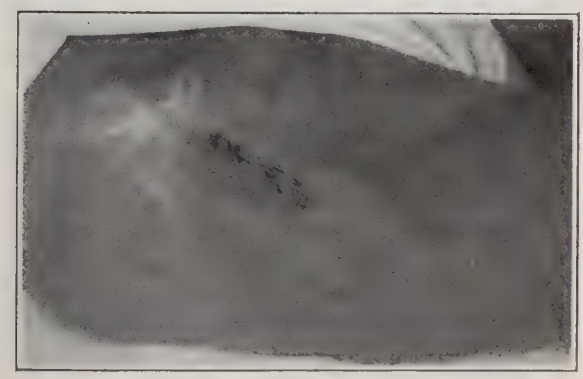

Fig. 4. Case 2, September, 1927.

absorb the energy and be killed and the under one would live. Even the indirect effects of heliotherapy are not specific against tuberculosis, but the use of heliotherapy brings about such a condition of well-being in the body as a whole that it is better able to resist the invading organism and to repair the damages already done. For this reason heliotherapy cannot be used as a substitute for any of the orthodox methods of treating these cases, but rather as a valuable addition that enhances the benefit derived from other procedures. Rest of the part affected, in the strict orthopedic sense, is essential and should be secured in the usual way, avoiding, if possible, the extensive use of plaster which prevents the irradiation of large areas of skin. The use of heliotherapy does not guarantee the recovery of the patient. As in all forms of tuberculosis, there are certain cases which continue to progress unfavorably under the best of care. When the bones and joints have become involved to the extent that a definite diagnosis of tuberculosis can be made, a train of pathologic events, beginning with destruction and ending in repair, has been started that cannot be aborted by any procedure except surgical removal of the diseased part. This train of events, however, can be greatly influenced by heliotherapy and the proportion of cases ending in complete repair greatly increased.

For practically all types of cases it is advisable to begin treatment by the conservative technic laid down by Rollier. This consists of graduated exposures to increasing areas of body surface. The feet only are exposed the first day, front and back, for a definite period, generally three to five minutes. The next day the legs are exposed for the original period and then covered to the feet, which are exposed for an additional period. The following day the thighs are exposed and then in succession the abdomen and thorax. The head is never exposed to the direct rays of the sun. By this method each area begins with a limited exposure which is increased daily by the length of the original exposure. Few reactions will be encountered with this method, even in the most delicate, but the insolation should be interrupted if there is any rise in temperature, headache, dizziness, or malaise following the exposure.

The foregoing technic is for exposure to the sun, but includes the fresh-air baths and takes for granted the fact that the child has already been acclimatized to fresh air. With ambulatory patients who come bundled up in layers of clothes, this acclimatization is accomplished by gradually removing one garment after another until only one layer is left. With bed patients the amount of bed clothes is gradually reduced and the covers are turned back entirely for increasing periods each day, exposing the body to the fresh air. One important factor in the comfort of patients taking heliotherapy is protection from the wind. The body can stand remarkably low air temperatures if it is exposed to the sun and protected from the wind, but the slightest draft is noticeable, and may cause the stopping of the exposure.

The children who have been treated in this demonstration have all come from the Philadelphia district and have been referred by hospitals or social agencies. They all have been under treatment in wards or dispensaries reserved for orthopedic cases, some for long periods of time. They all had been receiving

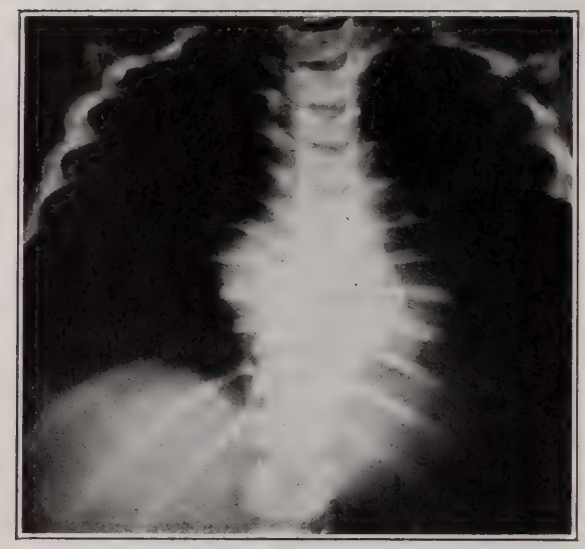

Fig. 5. Case 3, July, 1925.

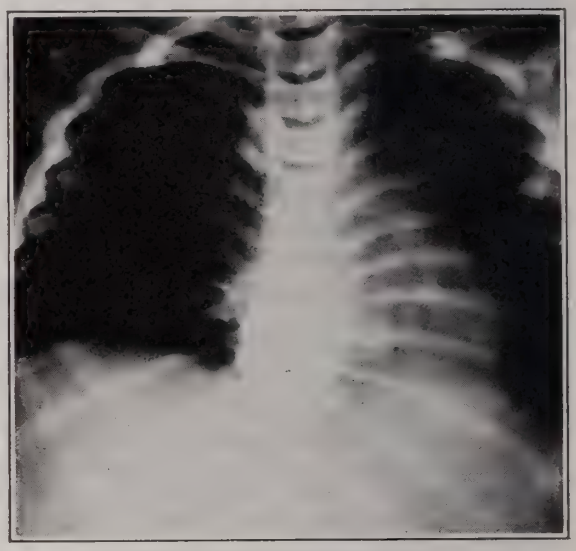

Fig. 6. Case 3, September, 1926.

Fig. 7. Case 4, June, 1925.

Fig. 8. Case 4, May, 1926.

routine hospital treatment and supervision, and in transferring them to Chestnut Hill no important change was made in the handling of the case except the addition of heliotherapy. Any change in the course of the case, then, could be with fairness attributed to heliotherapy. The patients were all white children between the ages of four and fourteen, and were equally divided between boys and girls. The most frequent lesion was involvement of the spine and next, the hip. There were many cases with involvement of the lymph nodes and then in order of frequency came involvement of the knee, multiple lesions, the peritoneum, the elbow, the shoulder, and the ankle and foot.

The following six illustrative cases were selected to show the results, both general and local, in the different types.

Case 1. A child, aged three and a half years on admission in December, 1925, had been taken to a general hospital for an abscess of the upper right arm and treated there by the orthopedic department for some time. She was discharged to us in an aëroplane plaster dressing. On removing this, there was found to be considerable limitation of motion of the right shoulder and two discharging sinuses on the upper arm. She was given free use of her arm, and now has no limitation of motion, does not "favor" that arm at all in play, and the lesion seems to be entirely healed.

Case 2. With an acute onset in June, 1925, extensive rapid destruction of the hip joint ensued. In a hospital for orthopedic cases the head and neck of the femur was resected, followed by a complete breakdown of the operative area, with hectic fever and great prostration. The patient was sent to us for sun treatment in February, 1926, as the hospital could offer no further hope. The pictures tell the local story. The boy is now up and about on a brace and crutches.

Case 3. This patient had been treated for eighteen months in a hospital for orthopedic cases. On admission in June, 1925, there was marked emaciation and a paraspinal abscess. She is now up on a brace part of each day, and has gained ten to thirty-four pounds.

Case 4. A cervical adenitis of eighteen months' duration had been treated in dispensaries by incision and drainage. The condition was advancing and the general condition poor. After eleven months of heliotherapy the scrofulous areas had all healed, there were

Fig. 9. Case 5, June, 1925.

Fig. 10. Case 5, June, 1927.

no palpable glands, and the scars were soft and freely movable. The patient had gained thirty pounds in weight.

CASE 5. The patient had had cervical adenitis four years before admission, and the incised glands had all healed. The elbow condition began about two years before admission. On admission in June, 1925, there were multiple sinuses about the left elbow, and the maximum amount of motion can be seen from the first double exposure. After twenty-two months of treatment the elbow had entirely healed, and motion had increased as shown in the second double exposure. This case illustrates the degree of motion which can be restored to involved joints.

CASE 6. Multiple involvement of the foot and ankle began about ten years before admission. It healed, but broke down again in September, 1926, and grew so much worse that the patient was told it would have to be amputated if improvement did not soon begin. She had been treated at the seashore for several months. With the addition of heliotherapy, she has gained twenty-five pounds, and will eventually have a good foot.

Fig. 11. Case 6, April, 1927.

Fig. 12. Case 6, December, 1927.

In conclusion, I should like to lay special emphasis on certain points:

(1) Heliotherapy can be profitably used at a low altitude and close to a large city. The results obtained in extrapulmonary forms of tuberculosis in children justify its more extensive use.

(2) Heliotherapy is not in any sense a specific for tuberculosis, but acts in a general way on the entire body economy. At no time should it supplant the accepted orthopedic principles, especially long-continued rest.

(3) After the systematic use of heliotherapy in those cases which respond favorably a greater return of joint function can be obtained than by any other method.

111 Rex Avenue, Chestnut Hill.

ABSTRACT OF DISCUSSION

Of Symposium on the Use of Light Therapy in Children

Percival Nicholson, M.D. (Ardmore, Pa.): I feel that the public is being misled in regard to the domestic use of window glass which transmits ultraviolet light. It is perfectly true that this glass does not screen out the ultraviolet rays, but in summer children should be outdoors getting air baths in combination with sun baths. In winter there is so little ultraviolet light in the sun's spectrum as to be therapeutically of no value. In order to secure the best results from light therapy in winter, it is necessary to use some artificial source of ultraviolet light combined with circulating air. From a practical standpoint the quartz mercury-vapor light is much more efficient than the carbon arc light for this purpose.

Symposium On Injuries to the Knee and Ankle Joint *

KNEE-JOINT INJURIES

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NEW YORK, N. Y.

The knee joint is the chief accessible articulation, and because of exposed position, weight-bearing necessities, flexibility, and anatomical conformation, it is often subjected to trauma. It is the last unexplored cavity of the body, and as we shall see later, is the source of a wide variety of internal complaints, many of which are suggestive of intra-abdominal lesions.

For purposes of description, these knee-joint traumapathies may be divided into two main classes: (I) extrinsic, or extra-articular, and (II) intrinsic, or intra-articular.

Class I

Contusion-sprain, wounds, ligamentous rupture, and bursitis may be said to comprise this group of external injuries.

Contusion-sprain is best treated by immediate application of moist heat, followed by massage and criss-cross strapping of adhesive plaster. Motion is begun at once, and is continued up to the point at which lasting pain or swelling are induced. There is no joint in the body in which active motion is more indicated, and none in which absorption of effusion is more quickly influenced by the circulatory stimulation thus afforded by self-massage induced by the patient's own action. Daily massage followed by dry heat is applied over the strapping and, when necessary, the adhesive is reapplied. An excellent method of applying dry heat is to expose the joint to the rays from a 50-watt unfrosted electric-light bulb. After the local signs have subsided, exercises should be prescribed to activate the quadriceps. One of the best of these is to have the patient shrug the kneecap and also to lift the injured limb against the resistance of the sound limb. The use of a knee supporter or similar device defeats this object and in effect is like the wearing of a truss after herniotomy.

Wounds of the integument, like wounds elsewhere, should be subjected to plentiful application of soap and water, but no rough scrubbing or harsh manipulation is safe, for then more is probably washed in than is washed out. Gasoline or kerosene are used as preliminaries to clean off grease or excess dirt, and shaving is routine. The wound edges should be separated enough to visualize every cranny, and blood clots should be carefully removed. The cleansed wound is then dried, and tincture of iodin is freely poured into and about it. Sutures are placed, but are not tied until the third day, this principle of delayed suture in all accident wounds being by far the safest. A gauze dressing is next applied, and is moistened by iodin-saline solution made by adding one dram of iodin to a pint of saline solution. A posterior splint is applied if the conditions demand it, and if no infection is apparent on the third day, the sutures are tied and primary union can be confidently expected.

In hospital practice, the amputation or exsection of the wound edges and the entire wound tract may be an alternative method in selected cases. This débridement procedure obviously is limited as to patient and surgeon, and is not to be practiced unless the injury has occurred within twenty-four hours. It is altogether poor surgery if evidences of infection exist or if the wound is not clean-cut. In punctured wounds the same cleansing methods are used (shaving, gasoline, soap, and water) and then the tract is gently filled with iodin, a suitable syringe being used. If possible, a rubber band or a thread of silk-worm gut acts as a drain, and the dressing is the same as already described.

In wounds, as in traumata generally, the maximum of effect usually appears within the first three days, and indeed no organisms of any sort can be cultured from the ordinary wound until after six hours. Hence, in wound treatment, we should act in this period of incubation, for

* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 4, 1927.

after twelve hours the organisms are very numerous, and in twenty-four hours they are myriad. Personally I have little faith in antiseptics as germ killers, regarding them as solvents in some cases, irrigants in others, stainers or cell fixatives in others, and cell killers in others. To rely on the smell, the color, the cost, or the advertising of antiseptics is to negate all we have learned in a century, to forget many bitter experiences, and to erect a weak alibi for our failure to create a clean field by the simpler means of soap and water or débridement. Of late, some of the profession have become surgical flappers and are daubing their wounds with rouge, and even trying to sterilize the entire blood stream by injecting this red doctrine into the poisoned system. Unfortunately, the day has not arrived when we can penetrate the depths of a freely exposed wound with a sterilizing antiseptic; and if we cannot do it from the outside, how can we expect to do it from the inside? Incidentally, let us not forget that we long ago abandoned mercury as a wound sterilizer, even though in those older days our solution was green or blue, while today the therapeutic rainbow is mainly red.

Ruptured ligaments are treated like sprains when the separation is not great enough to demand operative suture. Actual separation of the quadriceps or patellar tendon requires suture and perhaps plication with fascia lata.

Bursitis is to be aspirated after the manner of synovitis, to be described later. In less demanding cases, massage, heat, and motion will suffice. In the chronic or recurrent group, the propriety of exsection is to be considered.

Class II

Synovitis, empyema, cartilage injuries, subpatellar fatpad hypertrophy, calculi, foreign bodies, fractures, and dislocations may be said to comprise this internal group.

Synovitis is best treated by immediate aspiration, followed by prompt mobilization. To aspirate a knee aseptically, let the iodin-painted joint represent the dial of a clock, the figure XII above, the figure VI below. Inject a local anesthetic at the middle of the outer margin of the articulation corresponding to the figure III on the left and the figure IX on the right knee. In either area introduce the large calibered needle and point it toward XII, pushing the floating patella outward so that it affords an overhanging shelf as an additional guide. The bloody effusion flows of itself, or it can be aspirated by suction. Indeed, the fluid will remain sanious for as long as six weeks, and if it is not blood-tinged, a reasonable suspicion is aroused of nontraumatic or mixed origin. When all available fluid is extracted, the needle is withdrawn and the opening is sealed. If active motion is then relatively painless, we immediately permit moderate use of the part; if it is painful, we still insist on motion, increasing the latitude thereof gradually, always insisting on self-effort to activate the dormant quadriceps. This method is no more dangerous than aspirating a pleural effusion or a hydrocele; it is an office procedure when properly performed.

Beware of so-called recurrent or chronic synovitis, for this is usually a sign of some intra-articular irritant such as a joint calculus, probably a fractured cartilage of long standing. The patient honestly believes his condition is due to contact with the ground when he fell. As a matter of fact, the calculus upset the gliding motion of his joint, threw him off balance, started the effusion, and the fall was the result and not the cause of the event. This is just what happens in a fractured patella. The patient believes he broke the kneepan by striking the ground, but we know the fracture preceded and caused the fall.

Traumatic synovitis can be aggravated and much complicated by a distant and perhaps quiescent focus of infection, and then we are dealing with a troublesome arthrosynovitis. Given effused blood and serum in a closed space, plus organisms fed thereinto through the blood stream or lymphatics, could there be a better laboratory incubator? The cavity contains an autogenous serosanious fluid, virtually a bouillon, and it is no wonder that many of the effusions lead to more or less deformity of the joint. In passing, let us not forget that any traumapathy in any part of the body by this same process makes the injured site an easier prey to infection by providing an adequate culture medium. Virtually we have a metastasis, and this to me is one good reason why so many cases of trauma fail to heal with the regularity characteristic of lesions of other origin.

If we do not choose to avail ourselves of this method, let us promptly resort to daily massage and heat to reduce the effusion; but if we splint the joint and fail to mobilize it promptly, it may mean weeks of aftercare to overcome stiffness and atrophy. It is pertinent here to say that physiotherapy should not be reserved for aftercare; it should be employed for coincident care.

Massage and dry and moist heat are still the best forms of physiotherapy next to the self-

physiotherapy induced by using the injured part. No apparatus, whatever the name, whatever the claims or advertising merit, can replace the benefit accruing from the physical, mental, and moral effect of self-use as a restorative of local and systemic confidence.

Empyema—An infected knee joint is a serious problem, and preparation should be made forthwith for a battle. In the initial stage aspirate the joint, and while awaiting the laboratory report, apply hot moist dressings and keep them hot and moist continuously. If staphylococci are present without streptococci, incision and drainage can perhaps be averted by repeated aspiration and the injection of ether into the cavity. Five to ten c.c. of this is used at first to note the effect of the reaction, the needle being plugged until all the ether has penetrated the articulation, and then the vapor is allowed to escape. This is painful, but I have known joints to be saved by the procedure. If streptococci are present, or if repeated aspirations (two to four) are unavailing, or if a penetrating wound is a focus of a burrowing infection, then incision is urgently demanded. This vertical incision is made midway between the tip of the condyle and the lateral border of the patella, and it should be four to six inches long. Use general anesthesia and a tourniquet, and the incision should be sufficient to produce self-gaping; otherwise it will fail of the purpose. The interior of the joint is best emptied by frequently opening and shutting it, and if any saline irrigation is used, it must be introduced very gently, otherwise it may find entrance into one of the five main compartments of the joint. If necessary, a similar incision is made on the opposite side so that through-and-through drainage may be afforded. Perforated rubber tubes of the Carrel type are placed at the lower angle of the incision, but are not carried into the joint, and through these some irrigating fluid is introduced often enough to keep the dressings moist. Saline solution, the iodin-saline solution already mentioned, Dakin's solution, or any favored solution may be employed, for it is not the solution itself that we rely upon, but rather the irrigation action, the solvent action of it.

When the incision is made, introduce a finger into the joint in search of denuded cartilage or bone, and if denudation is present, do not delay long in further exposing the joint, for osteomyelitis or osteochondritis need wide exposure to prevent amputation or a fatality. With the dressings in place, keep the knee partly bent on a pillow and, if possible, put the knee through opening and shutting motions twice each two to four hours. I say "if possible," for the pain is usually so severe that very few patients will thus coöperate in encouraging drainage in the early stages. In gunshot wounds of the joint, I have seen soldiers walk without any dressings, and at each step the pus would be actually squirted out of the joint by the to-and-fro motion.

If, after this form of incision and drainage, the process does not abate, it is necessary first to be sure there is no pocketing into the quadriceps or popliteal regions. If local fluctuation, pain, or induration persists beyond the original zone, then further incision is made in the accused area, special care being taken in the popliteal region so that it is accurately bisected to avoid the contiguous vessels. This is a dangerous zone to attack, and once I punctured a popliteal vessel and subsequently had to amputate the thigh in an old osteomyelitis, the site of a recurrence.

Assume, then, that gain is not brought about by the exposures already described, or assume that lateral incisions are not sufficient from the very outset. Resort may then be had to three procedures: First the lateral incisions can be converted into a U-shaped approach by cutting the patella tendon and suturing the skin to the front of the thigh, leaving the knee bent and entirely open; second, the patella can be bisected and each half of it sewed to the margins of the joint; third, the lateral incision can be extended to the tibial spine and around the patella, and thence upward to the quadriceps space. The second and third of these are approaches used in arthrotomy for joint calculi. It is really an individual choice as to which is the best in this now desperate situation. Personally, I favor the first or third. If, finally, this complete exposure is not successful, the only recourse is resection or amputation, usually the latter. If amputation is decided upon, a circular flap with lateral freeing is usually chosen, and few, if any, sutures should be used, so that drainage may be altogether adequate.

Needless to say, a patient in this septic state will be given the benefit of transfusion when indicated.

Cartilages, fat pads, calculi, and foreign bodies.—These intrinsic arthroliths, of which the internal semilunar injuries are typical, certainly cause dysfunction far more frequently than we realize. I am convinced that many cases of so-called "severe sprain," "recurrent synovitis," "weak knee," "neuritis," and "rheumatism"' are in reality some form of intrinsic irritant, well hidden and not disclosed by any form of examination whatsoever. The history of such a case must be the main guide, for the x-ray, with or

without oxygen injection of the joint, so often shows an apparently normal joint that I believe a negative x-ray has positive value. Let us recall that the interior of this joint is a cylinder lined by a smooth membrane, and within it are two rocker arms (femur and tibia), the unequal convexity of one accurately fitting into the unequal concavity of the other. Between the bearing surfaces of these two bony rocker arms are interposed, not babbitt metal, but cartilages, and they are prevented from sliding too far backward or forward by crossed guy ropes which we call crucial ligaments. On top of this cylinder is the patella, and under it are pads of fat acting as bumpers. If we thus visualize this structure, and think of it in automobile rather than anatomic terms, we shall the more often realize that knocking sounds from within do not demand more oil or gas but a trip to the repair shop.

Cartilage and associated injuries usually occur as the outcome of a sudden twist or wrench of the knee, and rarely result from direct violence alone. The cause is not always a violent insult to the joint, however, for I have known it to occur from such an apparently trivial cause as turning over in bed. In major sports, football and hockey furnish the greatest number of these injuries. In industry, falls, twists, and sudden rising from a crouching position are most causative. In ordinary pursuits, the automobile and missteps on the stairs or sidewalk are often provocative. However and wherever they occur, the history is most suggestive and often is pathognomonic.

The football or hockey player was thrown off balance while standing or running, and the leg turned out and the knee turned in, or the reverse—but the knee was laterally twisted or wrenched. Pain was felt at once. The joint swelled, and it may have been difficult to straighten it for minutes or weeks. Actual locking rarely occurs with a first attack, and often never occurs at all. After the initial pain and swelling have subsided, there may be no symptoms whatever; or there may be a need for caution in walking on irregular surfaces or in twisting the joint in certain directions. In others, this first attack is succeeded at irregular intervals by others more or less similar or severe. In all of these mono-articular cases there are certain outstanding features which may be said to consist of: (1) pain, which is at first general and later is localized and, if so, is almost pathognomonic; (2) joint instability or insecurity, denoted by some such statement as "I am not sure of it," "It goes back on me if I am not careful," "It lets me down," "It feels weak"; (3) recurrent synovitis with each attack, and in the chronic cases, more or less thickening persistently; (4) crepitus, local or general, and in some cases like a pistol shot when heard through the stethoscope; (5) atrophy, in the recurring or chronic group, which is seen in the quadriceps and later in the calf; (6) x-rays which are negative unless the calculus contains bone. We have abandoned oxygen injection of the joint as a diagnostic aid because it was not reliable and does not supplant the history.

Of course, there is the group in which a calculus can be seen or felt by the patient or physician, or both; and there is also the group in which locking occurs. These, of course, are self-evident and need no comment.

These intrinsic arthropathies of the knee due to loose bodies so much resemble calculi of the gall bladder and urinary tract that I have called them knee-joint calculi. They cause joint indigestion and attacks of colic just as their namesakes do elsewhere. For a time they may be treated by drugs, salves, or physiotherapy, just as gall stones and kidney stones used to be treated; but in reality, removal by arthrotomy is the only safe cure.

In recent cases in young people, a limited incision directly over the indicated zone is probably all that is necessary. But when there is a history of recurrences, of long duration, of joint instability, an exploratory arthrotomy is just as much indicated as an exploratory laparotomy. In typical acute appendicitis a lower-quadrant small incision suffices; but in chronic appendicitis, the prudent surgeon wants a look at the gall bladder and the pylorus as well. It is the same in the knee joint. Reserve the lower-quadrant incisions for the acute group, but in the others make the incision longer and wider.

Last year I made the limited incision in the knee of a young woman, and removed a fractured cartilage. Nine months later I was obliged to make a regular exploration and found, to my chagrin, that the first operation had removed only part of her trouble. In other words, she had not only appendicitis but gall-bladder disease as well. In the knee, as in the abdomen, repeated or persistent irritation often registers at a distance from the original focus. I have seen adhesions, villi, and membranes in the knee just like those I have seen in the abdomen, and the lesson of experience in arthrotomy, like that of laparotomy, is to perform a real exploratory arthrotomy as the routine rather than as the exception.

We have used the ultra-aseptic, or Lane, technic in a series of 84 cases dating from Feb-

ruary 9, 1919, to September 29, 1927. The nurse uses clamps to handle all instruments and dressings, and each instrument before being used again is thrown into a sterilizer or pan of boiling water, and is removed therefrom by clamps. Sutures are passed by a Reverdin needle, and all knots are tied by clamps. A tourniquet is applied high up on the thigh, and is not released until the joint is securely bandaged. We have had three cases in which sutures had to be removed for swelling or redness, but there has been no infection of the interior of the articulation.

This technic takes more time, more agility, and more training of the staff, but I want it employed when my knee joint is opened. The average time for performing general arthrotomy by the larger incision is about fifty minutes. Spinal anesthesia acts well in this group.

Instead of hanging the knee over the end of the table to open up the joint space, we bend the joint on the table, and place the foot against the opposite knee. It stays there of itself and we can stand up while operating and thus run no risk of upsetting the draped field, as we can handle the limb without changing our position.

After operation we insist on motion of the joint just as soon as the patient is out of the anesthetic. We insist also on effort to raise the thigh, and usually by the fourth day the knee can be bent to a right angle over the side of the bed. The patient walks in from seven to ten days, and thereafter self-application of compresses of hot soapsuds are used twice daily, followed by massage with warm camphorated oil, and ending by exposure to the rays from a 50-watt electric bulb. The whole procedure takes thirty minutes or longer. This combination of a soap soak, oil rub, and electric-light bath is very useful in any joint or muscle lesion, and we use it as a routine, calling it the "S O L" treatment.

What happens to the joint when the cartilage is excised, the villi and synovia excised, and all foreign bodies removed? Dr. T. K. Richards, in medical charge of the Harvard athletes, recently stated that last year he had fourteen men actively engaged in major sports after knee-joint operations. This included football, hockey, baseball, tennis, and literally all forms of college athletics. My own observation is that there is no form of reparative surgery more rewarding, and accumulating experience leads toward advocacy of this operation not only for the effects of trauma but for systemic arthritis as well. In other words, surgery in selected cases of arthritis will do more than drugs, physiotherapy, or sera.

The operative approach just described acts equally well for foreign bodies introduced from without, such as splinters or bullets.

Fractures include involvement of the patella, femoral condyles, tibial head, tibial spine, and tibial tubercle.

Patella fracture is treated by very early operation, not waiting for the so-called subsidence stage, a period of seven to ten days. We always use a vertical incision, débride, and then coapt the torn capsule accurately by a series of interrupted chromic-gut sutures. A reinforcing purse-string stitch of the same material encircles the kneepan. No wire is used. A posterior splint is applied, and motion is begun in seven to ten days, but from the outset we urge shrugging of the patella and attempts to lift the splinted limb off the bed.

Femur-condyle fracture is treated by immediate aspiration and a posterior light splint if there is not much separation of fragments. If there is separation, manual reduction is attempted, and if this fails, transfixion of the head of the tibia is employed, the knee is flexed, and traction of ten to twenty pounds attached. If reduction is then ineffective, open reduction with nailing or suturing has to be considered.

Tibial-head fracture is treated by immediate aspiration, posterior splint, and early mobilization when displacement is minimal, or it can be overcome by manual reduction. Otherwise we transfix the os calcis and apply a traction weight of five to fifteen pounds to the flexed limb.

Tibial-spine fracture usually responds to splinting and early mobilization. If there is associated laceration of a crucial ligament, motion is delayed in the hope that spontaneous union will occur during a waiting period of three to six weeks. If, however, there is great displacement, arthrotomy may be indicated, and the torn ligament is then self-spliced or it is reinforced by a strand of fascia lata. The mediolateral approach to the joint gives excellent exposure for this or any other attack on the joint's interior.

Tibial-tubercle fracture (Schlatter's fracture) is an avulsion and occurs most often at adolescence. Early cases can be treated by aspiration and a posterior splint. Late or widely separated cases often demand open reduction with suture or nailing of the fragment. No treatment at all is necessary in ancient cases unless actual disability exists. If, however, the anchorage of the patellar tendon is impaired, it can be reattached by passing a strand of fascia lata through a drill hole over the tubercle.

Dislocations.—The patella may be displaced laterally, rarely otherwise. After reduction and aspiration, posterior splintage and early motion is the routine. In chronic or recurrent cases, various plastic operations are advised, but if the condition is of very long standing, the outcome, even after extensive operation, is doubtful.

The typical dislocation of the joint is backward, rarely lateral or forward, and fracture is commonly associated. If seen early, manual correction under anesthesia is generally easy. Aspiration is then performed and a posterior splint is applied, motion starting after a few days.

In delayed reduction, or in old cases, prolonged traction may be necessary, and this is best accomplished by adhesive fastened to the margins of the leg, a dangling weight of five to fifteen pounds passing over the elevated footboard of the bed. If called upon unexpectedly to treat a case of fracture or dislocation, it is easy to improvise provisional traction pending the application of definitive traction. For example, a sheet can be fastened around the ankle and to this a cord is attached, passing over the elevated footboard of the bed, a weight of five to fifteen pounds being added. The knee is placed on a pillow splint meanwhile, and on returning to complete the reduction we will be gratified to see that the provisional traction has perhaps been entirely successful. This is far better than to permit contracture to occur during the waiting period, and indeed in almost all fractures of the long bones this practice of immediate provisional traction should be carried out while awaiting x-rays, proper apparatus, additional assistance, or freedom from other engagements. The point is that in all dislocations, fractures, or wounds there is an incubation period of approximately six hours, and action then provides an opportunity to deal with the uncomplicated traumapathy. If action is delayed the original trauma is present plus complications.

The idea of "waiting for the swelling to subside" should be abandoned; we should not wait for x-rays; we should not delay in any case except for shock or associated injury. Traumatic surgery is acute surgery, and should be placed in the urgent class with gangrenous appendicitis and strangulated hernia.

Conclusions

(1) The knee joint is subjected to a wide variety of extrinsic and intrinsic traumata.

(2) Wounds should be rigidly cleansed with soap and water before reliance is placed on antiseptics. Delayed suture is safer than immediate suture. Débridement is the method of choice only in selected cases.

(3) Synovitis is best treated by immediate aspiration.

(4) Joint calculi are frequent and not infrequent sources of joint dysfunction. The internal meniscus is the chief offender. Joint locking and positive x-ray findings are rare in this group; to await their appearance is just as delusive and dilatory as to await definite signs of tumor in stomach malignancy.

(5) Wide arthrotomy and not limited arthrotomy is just as much indicated as in abdominal surgery. Exploratory laparotomy and exploratory arthrotomy are measures appealing to the experienced and prudent surgeon.

(6) Excision of joint calculi (otherwise called joint mice or rice bodies) and even of the entire synovial lining (synovectomy) does not damage but, on the contrary, it benefits the joint.

(7) Dislocations and fractures about the knee, as elsewhere, should be reduced at once. The principle of provisional traction finds wide application in this group.

(8) Early mobilization is preferable to immobilization and in effect is self-massage, making later physiotherapy unnecessary.

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INJURIES OF THE FOOT AND THE ANKLE

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In spite of the very many articles that have been written concerning injuries of the ankle and the foot, serious disabilities as the result of such injuries are extraordinarily common. Granting that some of them are of such a nature or so severe that a permanent handicap is inevitable, we must admit that there appears to be ignorance or carelessness in the treatment of many.

As disability is due to loss of normal function of the member, it is most essential that we should be thoroughly familiar with the fundamental mechanics of the foot if we would attempt to treat its disorders. This paper will present briefly, first, the conditions and laws which govern normal function of the foot; second, the usual causes of disabilities which result from injuries, particularly fractures; and, third, suggestions of methods of treatment to restore function as early and efficiently as possible.

Mechanics of Weight-Bearing and Locomotion

The line of the center of gravity of the body passes along the crest of the tibia, through the center of its lower articular surface, directly through the center of the astragalus as viewed from in front, and is continued in large part through the os calcis to the ground.

The internal and external malleoli keep the astragalus centered beneath the tibia, and have nothing to do with the transmission of weight. If the astragalus should be displaced laterally beneath the tibia, or the os calcis beneath the astragalus, the center of gravity would be moved toward one or the other side of the foot, and the foot would be thus subjected to an abnormal strain. This strain would fall upon the lateral ligaments of the ankle and the foot and upon the muscles which maintain the erect posture of the body, and, by the operation of Wolff's law, it would tend to cause changes in the external shape and the internal architecture of the bones of the foot.

When we stand, a lesser part of the weight of the body is transmitted forward along the tarsal bones and through the heads of the metatarsals to the ground. As we walk, all of the weight is so transmitted at each step. When the feet are maintained parallel to each other, the line of the center of gravity runs forward along the second metatarsal bone or slightly to its inner side. If the toes are turned outward, or if the foot is displaced bodily outward beneath the tibia or beneath the astragalus, the center of gravity is shifted and crosses the inner side of the foot, so that the ball of the foot may lie entirely without the center of gravity. It is evident that in such cases the foot must endure a very great strain to maintain the balance of the body, particularly in walking. The ligaments and muscles which support the longitudinal arch of the foot participate in this increased tension.

The arches of the foot increase its elasticity and therefore promote the ease and speed of locomotion. They are maintained in part by the plantar ligaments but largely by the flexor muscles, both intrinsic and extrinsic.

The ankle joint possesses only anteroposterior motion. Dorsal flexion extends not more than twenty degrees beyond a right angle, and plantar flexion sixty degrees beyond the right angle in the opposite direction. The limits of motion vary considerably in different individuals, however.

When one walks normally with feet parallel at each step, there is dorsal flexion beyond a right angle before the heel leaves the ground. Easy walking is not otherwise possible. If one turns the feet outward, i.e., everts them, in walking, he must of necessity roll over their inner side at each step, and normal ankle motion does not occur. But such a method of walking causes chronic foot strain and tends to produce pronated or flat feet. If by injury or disease normal dorsal flexion of the ankle has been lost, the patient is compelled to turn his feet outward and is condemned to suffer the symptoms and

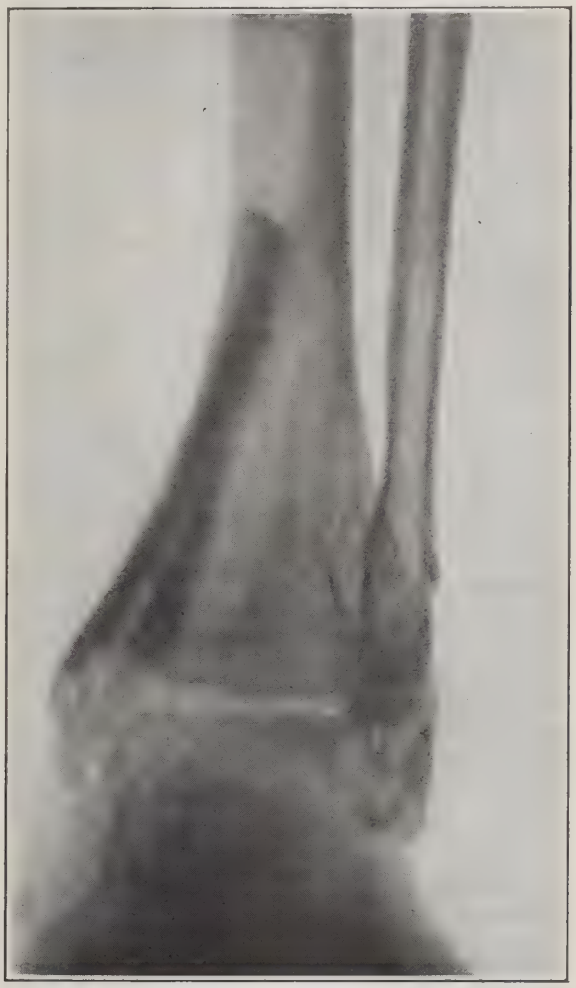

Fig. 1. Reconstruction of ankle and internal malleolus by means of sliding bone graft after old ununited fracture.

the disability of flat foot. Furthermore, there is often pain across the anterior aspect of the ankle which is due to the blocking of motion at each step. It is true of most joints that limited motion is frequently painful. A limitation of plantar flexion is not so apt to be painful or disabling because full motion in this direction is not employed in walking.

The subastragalar joint is formed by the articulation of the astragalus with the os calcis beneath and the scaphoid in front. Through it is transmitted all of the weight of the body, and in it occur all motions of the foot except those

of plantar and dorsal flexion, which take place in the ankle joint. These motions include supination and pronation around the longitudinal axis of the foot and inversion, or internal rotation, and eversion, or external rotation, around a vertical axis. Adduction and abduction refer to the motion of the fore part of the foot in relation to the posterior portion, and they occur in the midtarsal, or Chopart's, joint. The inner half of this joint is, of course, the astragaloscaphoid articulation and the outer half, the calcaneocuboid. It is largely by the motions in the subastragalar joint that the foot adjusts itself to inequalities of the ground.

When the foot is pronated, the weight of the body is shifted to its inner side, the strain on the internal ligaments and muscles is increased, and the longitudinal arch of the foot is depressed. When pronation is constant as the result of walking with feet everted or as the result of injury, e.g., fracture of the ankle or fracture of the os calcis, the persistent overstrain of the foot produces all the symptoms of weak or flat feet. An abnormal transference of the center of gravity to the outer side of the foot is much less common and probably less disabling; nevertheless, it tends to be productive of pain and disability.

The foot is constructed to bear weight to the best advantage in a certain manner. If the center of gravity is permanently moved to either side of its normal position in the foot, increase of tensions and pressures must follow and pathologic changes in bones and soft tissues must develop. Likewise, if the normal function of a joint is abolished or limited, abnormal motion and strain are apt to take place in other joints to compensate.

It is evident that without a knowledge of these elementary principles which govern the normal function of the foot it is impossible for the physician intelligently to treat injuries which have disturbed this function.

Fractures of the Ankle

It is not the purpose of this paper to describe in detail the many fractures of the ankle and the foot, but rather to inquire into the conditions which so frequently cause prolonged partial or total disability, and to suggest means of preventing or lessening such disabilities and of remedying them if they are already present.

The fracture of the internal malleolus and of the fibula an inch or more above its tip is the most common fracture of the lower extremity, and while it is one of the easiest of fractures to treat, yet it gives a high percentage of bad results. Accompanying the fracture, a lateral displacement of the astragalus frequently occurs, usually to the outer side, occasionally to the inner side. At times there is also a posterior dislocation which may be accompanied by a fracture of the posterior lip of the tibia. The type of dislocation depends on the direction of the force which has produced the injury. As most of these fractures occur when a person slips while walking, and as most people walk with their toes turned out, it follows that the direction of the force, which is the weight of the body, must be forward and inward in relation to the foot. Therefore, if the violence is sufficiently great, the astragalus must be forced outward and backward as the fractures occur.

Sometimes the foot may be turned inward at the time of injury, as in a fall from a height, and the fracture and the dislocation will then be in the reverse direction to those described above. If the force is largely expended in driving the foot backward, there is apt to be a posterior oblique fracture of the tibia and an oblique fracture of the fibula from behind forward and from above downward, accompanied by a marked posterior dislocation of the astragalus.

As a result of great violence there may be a transverse fracture of the tibia above the ankle and of the fibula a little higher. In children, a

Fig. 2. Fracture at the ankle with posterior dislocation of the astragalus.

Fig. 3. Same as figure 2 after reduction. Lateral view.

separation of the lower epiphysis of the tibia may occur.

Causes of Disability

In cases of bad results following these fractures, the patients are unable to resume work because of (1) pain and tenderness, (2) weakness of the ankle and the foot, and (3) stiffness of the ankle. The conditions which produce these symptoms are: lateral displacement of the astragalus; posterior displacement of the astragalus; nonunion of the internal malleolus and, less frequently, of the fibula; and limitation of dorsal flexion of the ankle.

Pain may be indefinite or may be localized on either side of the ankle and foot or in front of the ankle joint. Of more importance to the diagnosis are the points of tenderness: (1) Over the internal malleolus and the fibula, due to fibrous union or nonunion of the fractures. (2) Over the internal lateral ligament of the ankle, due to sprain at the time of the injury or much more commonly to chronic sprain caused by external displacement of the astragalus, which produces pronation of the foot or exaggerates one already present before the injury. (3) Below and in front of the external malleolus, due to pinching of soft tissues along the outer aspect of the subastragalar joint which is caused by the pronation of the foot, or due to chronic sprain of the external lateral ligament in the more rare condition of internal displacement of the astragalus. (4) Over the anterior aspect of the ankle joint, due to continued contusion of the capsule and the synovial membrane or of newly formed scar tissue or callus, and accompanied by limitation of dorsal flexion of the ankle. (5) Behind the ankle, caused by posterior fracture of the tibia or posterior dislocation of the astragalus.

The weakness of which the patient complains is the sense of insecurity which he has on weight bearing. It is caused by a lateral displacement of the foot or by nonunion of the fracture.

The stiffness of the ankle is felt in walking, and particularly in going up and down steps, and is caused by limitation of motion of the joint, especially of dorsal flexion. Dorsal flexion of the ankle is checked normally when the anterior lip of the tibia, after gliding forward over the articular cartilage of the astragalus, becomes locked in a groove just in front of this cartilage. This excursion may be limited by a posterior dislocation of the astragalus, by the formation of callus or scar tissue in the anterior aspect of the joint which would block motion, or by a contracture of the capsule or other soft structures posterior to the joint.

Fig. 4. Same as figure 2 after reduction. Anteroposterior view.

Lateral dislocation of the astragalus is not only more common than posterior, but it is also more productive of disability. The transverse diameter of the foot is much shorter than the longitudinal one, and a displacement of the center of gravity, even slightly to one side or the other, causes a greater strain on the foot than does its displacement forward along the posterior portion of the longitudinal arch. Aside from the tendency to limit dorsal flexion of the ankle, the latter condition, unless marked, is not productive of disability of the foot. Therefore, it is much more important to reduce the lateral dislocation of the astragalus than the posterior one.

Nonunion of the internal malleolus occurs because the two fractured surfaces are not brought into apposition. When, at the time of injury, the astragalus is driven outward, the malleolus follows it and lies in contact with the cartilage of the articular surface of the tibia. If the astragalus is pushed back into its normal position beneath the tibia, the internal malleolus is of necessity restored to its place, and union will occur. Occasionally, the malleolus is rotated on its transverse axis as its tip is dragged outward by the internal lateral ligament, and its base lags behind. In such a case, its cartilaginous surface, which articulates with the astragalus, is turned upward into contact with the tibia. The author has observed this condition as a rarer cause of nonunion.

TREATMENT

It is evident that the objects of treatment are (1) reduction of the dislocation of the astragalus, (2) union of the fractures, and (3) preservation of function of the ankle joint.

(1) The astragalus may be readily restored to its proper position by applying force over it at a right angle to the leg. If the foot be allowed to hang laterally over a sandbag or the edge of a table, the astragalus and the foot with it may be pushed directly internally with the hand on the external malleolus. It should be pushed over as far as it will go. This manipulation will reduce the fracture at the same time. Posterior displacement, if present, should be corrected by force applied behind the astragalus and the os calcis while counterpressure is made on the front of the leg above the ankle. As a matter of fact, the surgeon may neglect consideration of the fractures and consider only the reduction of the astragalus.

The author believes that it is a mistake to attempt reduction by supinating the foot, as is frequently done, because supination takes place in the subastragalar joint. Force applied in this manner has little or no effect in correcting the position of the astragalus. Likewise, a common mistake is made in dressing the foot in supination after attempted reduction. This only obscures the real position of the astragalus. If the foot is allowed to remain in midposition, one can readily see by inspecting it from in front whether or not it lies to one side or the other of the midline of the tibia. Only violence will redisplace the astragalus. It is impossible for muscle tension to do it. Therefore, the fixed dressings need be only those which protect from injury.

(2) Union of the fracture will occur if reduction of the astragalus is secured and maintained.

(3) Function of the ankle joint is to be preserved by securing at once complete or almost complete dorsal flexion, and by resuming early passive and then active motion and by employing baking and massage to eliminate swelling and to prevent the formation of scar tissue and adhesions about the joint.

The method of treatment may be summarized as follows: (1) Reduction under a general anesthetic in the manner described above. Result checked by x-ray. (2) In the presence of swelling, the use of a fracture box with elevation and the application of wet dressings and employment of massage consisting of gentle upward stroking. (3) After swelling has subsided, the application of a removable light plaster cast or a posterior plaster splint with the foot in full

Fig. 5. Old ununited fracture of internal malleolus. Outward dislocation of the astragalus.

dorsal flexion. Continued elevation to prevent swelling. (4) After a week or ten days, daily removal of the cast or splint and gentle massage and passive motion, preceded by baking if possible, while care is taken to prevent redislocation. Baking and massage to be continued until full weight-bearing function is restored. (5) Active motion begun in two weeks while the ankle is supported by the hands. (6) At the end of three or four weeks, partial weight bearing in the cast or splint with the use of crutches, if without pain. (7) Removal of the cast at the end of six or eight weeks. Application of an ankle brace with free motion in the joint. An arch pad in the shoe to correct any tendency to pronation of the foot. Continued use of crutches as necessary. (8) Full weight-bearing function at end of three months. Continued use of brace, which does not interfere even with hard work. (9) It must be remembered that the foot bears the entire weight of the body and that it must be protected against injury for a longer time than is necessary in the upper extremities.

Treatment of Old Fractures

The scope of this paper does not permit any detailed discussion of the methods of treatment of old fractures. Operation is necessary to correct nonunion and malunion with lateral subluxation of the astragalus. Where there is stiffness of the ankle joint or weakness of the lateral ligaments, improvement may be secured by persistent baking and massage and protection from overstrain by means of a suitable brace. In cases where, in spite of prolonged conservative treatment, but very little motion is present in the joint and this motion is so painful as to prevent walking, the author has performed an arthrodesis of the ankle. Painless stability is preferable to painful limited motion.

Fractures Above the Ankle

Transverse fractures immediately above the ankle and separation of the lower epiphysis of the tibia require here no other consideration than to make the statement that they should be so reduced that the normal weight-bearing line of the leg and the foot is restored. Open operation is to be condemned in epiphyseal separations, as it tends to cause nonunion or to interfere with the blood supply and, consequently, the proper development of the epiphysis.

Fractures of the Os Calcis

There are few if any other fractures which equal those of the os calcis in the high percentage of bad results. The injury is usually sustained by a fall upon the feet from an elevation. The

Fig. 6. Injury to the epiphysis interfering with its growth.

bone is usually comminuted with a main line of fracture running more or less vertically through the body. The os calcis may be compressed in its vertical diameter and expanded in its lateral. One or more lines of fracture run into the subastragalar joint. The articular surface is altered in its contour, and fragments of bone may be displaced along the margins of the joint, particularly the outer, by the lateral explosion of the bone. The posterior fragment of the os calcis is driven upward by the force of the impact on the point of the heel or is pulled up by the tendo achillis. If the patient has lighted somewhat on the inner side of his heel, there may be an external subluxation of the os calcis or some of its fragments.

Causes of Disability

It is because of pain on standing and walking that these patients are unable to resume their normal activities after a sufficient length of time has passed for the healing of the fracture. We must again seek carefully for the points of tenderness, as they will guide us in understanding the origin and cause of the pain.

(1) Pain on standing may be felt on the sole of the heel, and the surgeon may find there a tender exostosis. This bony mass is due to a tilting of the posterior fragment of the os calcis, up behind and down in front, or to the projection of some smaller fragment of bone. In the author's experience this is not a common condi-

tion. If present, it may be cured by an excision of the exostosis or protuberance.

(2) Pain and tenderness are always found on the outer side of the foot, particularly along the external margin of the subastragalar joint. The pain is induced or exaggerated when the patient twists his foot on some small inequality of the ground, as when treading on a pebble, or when the surgeon grasps the foot with his hand and attempts to move the subastragalar joint. Motion of this joint is more or less limited and at times entirely absent. If ankylosis is bony, there is no pain on attempted motion of the joint; if it is fibrous, there is pain. The surgeon may feel a tender bony mass on the outer side of the heel or tender irregularities along the joint margin.

It seems probable that the pain is due to a pinching or contusion of the synovial membrane and the capsule along the outer aspect of the subastragalar joint, or to a tension upon contracted tissues at every movement of the foot in pronation or supination. Possibly soft tissues may be squeezed between the os calcis and the external malleolus, although this does not seem probable. Pain may also be due to irregularities within the interior of the subastragalar joint. What is clear is that movements of the subastragalar joint are limited either by irregularities of the bone or by adhesions or contractures about or within the joint, and that these movements are painful. Limitation of motion and pain are coincident, and are due to the same cause.

The excision of a gross mass of bone from the outer side of the os calcis will not necessarily relieve the pain. If such an excision be performed, it should be continued all along the outer margin of the subastragalar joint to remove even small projecting portions of bone which may interfere with motion in the joint. If free painless motion cannot be secured by this procedure, the final resort must be a subastragalar arthrodesis.

Arthrodesis, or fusion of the os calcis with the astragalus, is recommended as a primary procedure in these old fractures if there is very slight motion present, or if the pain appears to be general and deep-seated and not confined largely to the outer side of the foot.

(3) If there is an external displacement of the os calcis or any of its fragments beneath the astragalus, the patient may suffer from all the pain and disability of a pronated or flat foot.

Treatment of Fractures of the Os Calcis

(1) Reduction of the fracture under a general anesthetic. The following procedures should be followed: (a) Reduction of the posterior fragment by flexion of the knee and plantar flexion of the ankle to relax the tendo achillis, and by pulling down on the heel with the hand while at the same time molding strongly upward the plantar surface of the os calcis. (b) Lateral molding with the hands to reduce the transverse diameter of the os calcis and to press into place any fragments which may project along the outer aspect of the subastragalar joint. (c) Replacement of the os calcis in its proper position with reference to the weight-bearing line of the body, if there has been a lateral subluxation. (d) Manipulation of the subastragalar joint to

Fig. 7. Fracture ot the os calcis.

smooth or press away any bony fragments, often possibly small ones, which block its motions. This may be done by grasping the entire os calcis firmly with the hand and rotating it on its longitudinal, or horizontal, axis into positions of supination and pronation.

(2) Application of a removable plaster cast or a posterior plaster splint molded firmly about the heel and upward beneath the arch, maintaining the flexion of the knee and the ankle, and preserving the normal weight-bearing line of the leg and the foot. Elevation to relieve or prevent swelling.

(3) Baking, massage, and passive movements begun and continued as after fractures of the ankle.

(4) Gradual dorsal flexion of the ankle and extension of the knee as the fracture begins to unite.

(5) Gradual resumption of weight bearing in the plaster cast, and finally with an ankle brace and a pad in the shoe beneath the arch.

The author considers the restoration of the os calcis beneath the center of gravity and the preservation of motion in the subastragalar joint the two chief considerations in the treatment of fractures of the os calcis. If we fail to secure the latter, then a subastragalar arthrodesis is the only reasonable remedy. But the immediate routine arthrodesis in all fractures of the os calcis, as has been recently recommended, is not viewed with favor.

The reduction of the posterior fragment has received too much attention in the literature, and its importance has been exaggerated to the neglect of the other more essential considerations. A persistent moderate tilting can do no other harm than to produce a plantar exostosis which can be readily excised. The use of continued traction by means of tongs or a pin through the fragment is unnecessary, and it prevents other important means of treatment to secure mobility. A routine tenotomy of the tendo achillis is a confession of lack of versatility and ingenuity on the part of the surgeon. Rarely, if ever, is it necessary, and it may be productive of harm.

Fractures of the Foot Anterior to the Midtarsal Joint

The chief considerations in the treatment of these fractures are: (1)The restoration of the longitudinal and transverse arches of the foot by molding them with the hands. (2) The use of a molded plaster splint to preserve the arches and to prevent rotation of the foot on its longitudinal axis. (3) The use of a steel shank and arch pad in the shoe after the splint is removed. This point is of all the greater importance because many people have pronated or flat feet antecedent to any injury of the foot. Exercises to strengthen the foot. (4) Support of the foot to be continued longer than is necessary in other parts of the body, because the foot bears the entire weight. (5) Open operations are unnecessary and inadvisable.

Dislocations of the Foot

Lack of space in this article prevents any consideration of the dislocation of the artragalus, the scaphoid, and other bones of the foot. It suffices to say that they should always be reduced. If the surgeon is unable to do this bloodlessly, he should not hesitate at open operation, which is simple and easy.

A discussion of the treatment of sprains, crushes which necessitate amputation, sepsis due to injury, burns, and other conditions cannot be entered upon owing to the limitations of this paper. If the surgeon is well grounded in his knowledge of the mechanism and the function of the foot, he is qualified to treat any conditions which may arise.

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AN EMPIRICAL CLINICAL CLASSIFICATION OF CHRONIC SUPPURATIVE OTITIS MEDIA*†

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Chronic suppurative otitis media is an elastic term that has been used to designate a great variety of actual clinicopathologic lesions. The satisfactory management of a given case of chronic suppurative otitis media rests on the correct clinicopathologic classification and the application of well-directed treatment for each case as a distinct and individual problem. There seems to be no good reason for adopting the ultraconservative and indifferent attitude of certain observers toward the disease and toward its latent possibilities of serious consequences, or the oversolicitous attitude of others.

It is possible to classify the disease clinically so that a rather accurate prognosis may be given. The middle-ground position is nicely described by Kerrison when he says, "We should not be slaves to the dogma, too often repeated in otological literature, that aural discharge is necessarily of itself a danger signal, which when persistent calls for operative intervention. If we can satisfy ourselves that the discharge is simply the logical product of exposed mucous membrane or healthy granulation tissue, and that there is no evidence of an active suppurative process involving the bone itself, one should be not too ready to interfere with nature's method of conservation."

Historical Data

Ancient physicians, who made keen clinical observations, recognized the serious consequences of otitis media. It must be recalled that they did not have access to modern views on anatomy, circulation, roentgenology, physiology, or pathology. It is apparent, however,

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that little attention was paid to otitis media unless symptoms of serious complications became manifest. Little mention is made of methods of treatment or classification of the disease. The fact that there was a difference in the odor of the aural discharge was assigned to the time of year and "the different constitutions of the humors." In fact it was not until the middle of the seventeenth century that operation was suggested for cure of the disease. The earliest observations were made by the morbid anatomists, one of the most noted of whom was Scarpa. The work of surgeons followed but, because of the absence of any accurate diagnostic measures, the management could scarcely be called well directed. Ballance says that measures of the greatest utility, catheterization of the eustachian tube, opening of the mastoid, and myringotomy, were cast aside. Myringotomy was first advocated on a rational basis by Itard in 1821, and, strange as it may seem, this procedure was not generally accepted. Kramer, during the early part of the nineteenth century, wrote extensively on matters pertaining to aural lesions, but because of his personality and his manner of criticism, his work did not receive the attention it deserved.

Naturally, with the advent of anesthesia and antisepsis, there was progress in surgery. This epoch began about the middle of the nineteenth century. However, Jean Petit had successfully operated on the mastoid during the early part of the eighteenth century.

Etiology

The presence of chronic otitis media assumes that there have been antecedent acute attacks of otitis media. In the majority of instances, the causative factor may be assigned to an exanthema, most frequently to scarlet fever or measles. In an exanthema, either the infection must be more virulent, causing more destruction of tissue, or because of the toxemia of the disease there is less resistance. The bacterial factor seems to have been overemphasized. The presence of acute otitis media is so common in childhood and adolescence that not enough attention is paid to treatment. It is almost a routine to examine the blood and urine of sick children, but it is unusual to examine the ears unless symptoms referable to them are complained of. It is as important to examine the ears daily as to examine the urine. However, there are cases in which it is not possible for the otologist to see such patients, particularly if they live in the country and outlying districts. Often patients suffer from earache until spontaneous rupture occurs. This greatly relieves the pain, and little more attention is paid to the ear. In many of these cases in which the discharge persists for a long time, properly applied surgical intervention would prevent chronic suppurative otitis media.

Then, too, the idea is prevalent that any small puncture wound of the drum membrane is sufficient to provide drainage. I believe that puncture should not be done in preference to a wide incision. Wide incision permits better drainage, while the small puncture wound does not. Frequently with spontaneous rupture the tympanic membrane is destroyed and epidermization takes place. It might be said in passing that it is doubtful if early myringotomy prevents the occurrence of surgical mastoiditis. That is quite another question. In a measure, it is generally thought that it gives the best possible chance of preventing this complication.

If more careful attention were paid to general hygiene in exanthematous types of infection, there might be less tendency for the infection to extend to the ears. Because of the increased amount of mucus in the pharynx and nose, and the difficulty of irrigating the nose and pharynx, it is customary for those caring for children to request them to blow the nose forcibly. It is well known that the eustachian tube in young children and adolescents is relatively shorter and larger than it is in adults. Auto-inflation may produce disastrous effects in certain of these patients.

Respiratory infections are more or less self-limited. The aphorism is well known that if an infection of the upper respiratory tract is treated locally, it will resolve within a week and a half; if it is let alone, it will get well in ten days. The swelling resulting from the infection is the natural method of obtaining physiologic rest in that part. It may be a little uncomfortable for the patient, but this may be said of swelling resulting from any infection in the body. The less the membrane is disturbed under these conditions, the sooner resolution takes place. Patients should lie higher in bed than usual; this is accomplished by the use of several pillows. Such posture may help to prevent the spread of infection to the ear and sinuses. It might be said in general that the prevention of chronic otitis media will result from better management of the acute cases.

Pathologic Changes

Politzer has said that the most important pathologic change in chronic suppurative otitis media is general thickening of the mucous membrane due to infiltration of the round cells and dilatation of newly formed blood vessels. The

mucous membrane may be devoid of epithelium in parts or covered by a thick layer of epithelial cells, showing cornification, scarification, or pigmentation. In fact, the layer closely simulates epidermis. Cilia are usually not present. The periosteal layer is altered, but it seems to be resistant and usually remains intact, although it may be so compressed by round-cell infiltration that it is replaced by a supporting granulating surface. Circumscribed elevations may develop through hyperplastic changes appearing as granulations or pedunculated masses or polypi. Tendinous cicatrices may form. The suppurative process may cause destruction of tissue as far as the bone, which in turn may become involved. The change from mucous membrane to the epidermislike covering may lead to the formation of a cholesteatoma, through exfoliation of the epidermal cells. The changes may develop independently at different periods of the disease, or they may exist at the same time. So far as the tympanic membrane is concerned, the loss of substance of the intermediate portions causes irreparable injury and the edge becomes covered with epidermis, thus causing permanency of the perforation, although the perforation may be closed with thin cicatricial tissue in which elastic fibers are lacking.

In chronic middle-ear suppurative disease, the mastoid cells are more or less involved. The character and extent of the involvement depend on the type of the mastoid process, the site of the perforation in the drum, the duration and severity of the disease, and the general resistance of the patient. The most extensive disease is encountered in the pneumatic type of mastoid process. Interference with drainage to the middle ear from any cause, permitting the retention of secretion and decomposition of purulent and caseous masses, leads to absorption and a carious-necrotic condition. The most significant changes are: (1) hypertrophy of the lining membrane of the antrum and mastoid cells, and complete obliteration of these cells (the granulating tissue which fills them may persist or ossify); (2) granular ostitis and carious softening of the walls of the mastoid antrum, which may become abnormally widened, giving the appearance of a cavity similar to that following a radical mastoid operation; (3) circumscribed or diffuse caries and necrosis with or without sequestration; (4) formation of a cholesteatoma, resulting in destruction of bone from pressure necrosis; and (5) hyperostosis and osteosclerosis, the result of the natural tendency toward limitation of the disease.

Clinical Classification

It may be noted that in making an empirical clinical classification of chronic suppurative otitis media, cognizance must be taken of the pathologic processes likely to be encountered. The elastic use of the term chronic suppurative otitis media has led to misunderstanding. Clinical classification of this condition is necessary in order more clearly to portray or suggest the type of disease under discussion.

Usually patients with chronic suppurative otitis media present themselves because of continuous or intermittent discharge from the ears for months or possibly for many years. If, however, the discharge from the ears is accompanied by pain, giddiness, and discomfort, the patient presents himself earlier.

As I have stated, chronic suppurative otitis media is an elastic term and describes the condition inaccurately. Therefore, for practical purposes an empirical classification has been made in order that more accurate records might be kept and that the patient might be more accurately advised of the significance of the disease. It has been found that cases of chronic suppurative otitis media fall into one of four groups:

Group 1. In cases of this group there is discharge from the eustachian tube through a perforation in the anterior quadrant. The discharge consists of thin mucus with little or no odor. There is no evidence of a destructive process within the middle ear or attic. It is apparent that the discharge is the product of mucous membrane, usually much increased in amount with a head cold, and causes the patient little inconvenience. Careful questioning may reveal that the patient has been advised to auto-inflate the middle ears in order to clear out the accumulation, with the idea that this is well-directed treatment, but as a matter of fact the ear is continuously reinfected from the nasopharynx in this manner. This type of case is of little significance so far as serious consequences are concerned.

The contributing factors in the continuation of the discharge are the nasopharynx and the anatomic and pathologic conditions of the nose which prevent free passage of the air and cause negative pressure congestion behind the obstruction. Under these conditions, the wrong nose-blowing habit becomes the strongest contributing factor to chronic otorrhea.

In this group the treatment is simple, as it is largely suggested by the causative factors. The nasal obstruction may be corrected, and the patient must be instructed to blow his nose in the normal physiologic manner, which consists

of blowing with both sides open or snuffing as animals do. It may prove less effective than holding one side and strenuously blowing against the obstructed side, but this creates a strong pressure in the nasopharynx. There is no column of air in the eustachian tube and middle ear to resist the force. The air passes more easily into the eustachian tube than against the anatomic or physiologic obstruction. If nasal douching has been habitual, it should be discontinued. In many cases the correction of these factors will take care of the discharge from the ear. I do not subscribe entirely to the dogma frequently mentioned by eminent otologists that anterior nasal obstruction is not a factor in suppurative disease of the ear.

Treatment may be directed to the tube itself. This can be accomplished better from the aural end. It has been found that aqueous solutions are best avoided as their use tends to waterlog the mucous membrane and defeat the purpose of the treatment by increasing the secretions. Alcoholic solutions are preferable, as they are antiseptic and hygroscopic, and have a good effect on granulating tissue. Any of the silver-salt solutions may be used to good advantage. If the perforation is small, it may be closed in some cases by any of the methods suggested in textbooks. Closure is desirable, as the continuous weeping from the tube is thus avoided. If the case is well controlled there will no longer be any discharge from the ear, although recurrence may take place with infection of the upper portion of the respiratory tract.

Group 2. The pathologic changes in this group are confined to the middle ear. A central perforation is present, involving perhaps all the dense portion of the drum, and the middle ear is filled with mucopurulent or purulent discharge. After mechanical cleansing, the actual condition of the middle ear is open to inspection. There may be granulation tissue or polyps over the promontory. The odor of the discharge may resemble that of ordinary pus, although saprophytic changes may suggest caries or cholesteatoma. No definite caries is detected, although the ossicles may have been largely destroyed. Inspection of the region in the vicinity of the attic may show that this is entirely closed over by a natural barrier. Further, there may be evidence that the tube is open and discharging.

Because of the condition in which certain patients present themselves, radical operation may be suggested as the only measure which would afford relief, but surprisingly good results may be obtained by treatment. Patients are instructed to carry out the hygienic measures noted in the discussion of group 1, and the ear is treated daily until infection has been controlled. It is emphasized that the ear must be treated daily or the results will be indifferent. Aqueous solutions should not be used for irrigation. It is customary to aspirate the contents of the middle ear with a suitable suction apparatus; then the peroxid-and-alcohol method may be used, and the ear again aspirated and thoroughly dried, either with a hand air bulb or compressed air. It is surprising how granulations shrink under this treatment.

If the granulations still remain, it may be necessary to remove them under a local or general anesthetic with suitable cutting forceps, and following this with the application of some form of chemical cautery. Either fulguration or diathermy may be used if carefully applied. Polyps may be removed in the same way. Traction must be avoided if the polyps are attached to the promontory. There are cases in which discharge ceases with removal of the polyp because the polyp is covered by mucous membrane which, of course, is constantly moist. Good results may be secured from treatment, particularly if the promontory is covered by epidermis at the completion of the treatment. However, if the promontory is covered by mucous membrane, it may be expected that the ear will continue to be moist, but this is of no particular significance.

Closing the eustachian tube may be desirable in this group, but it is difficult to accomplish. I find the Yankeur method most satisfactory. However, I do not work through the auditory canal, since the angle of approach is too difficult. A semiflexible flanged curet has been used without success because it is difficult to remove the membrane from the outer surface of the tube.

Group 3. In this group, besides conditions described in groups 1 and 2, there is a definite defect into the attic, which may or may not be overhung and contain casts of epithelial débris. The odor of the discharge is foul. There may be a marginal perforation either in Shrapnell's membrane or along the posterior margin of the tympanic membrane. This is regarded as a borderline surgical condition because of the probability that cholesteatoma is present. If the perforation is particularly small, it adds signifiance to the condition, because, as a rule, probing cannot be done thoroughly. The attic and middle ear can be more carefully treated if the perforation is enlarged purposely.

Cases in this group respond to treatment better than would be expected at first thought. In fact, 50 per cent of these patients do very well; 25 per cent would do well if taken care

of at intervals; while the remainder require some form of surgical intervention. The method of treatment is the same as that outlined for group 2 except that irrigation of the attic is carried on by means of a special cannula. Ventilation of the attic is accomplished through this cannula by compressed air, and it is surprising how much improvement takes place in a few days. In fact, treatment may be carried on over a long period when there are definite signs of improvement. The mechanical clearing of débris leaves the area clean and dry, and if there is no particular underlying necrosis of the bone, the condition will respond satisfactorily. The persistence of odor is significant in this type of case. It is strongly suggestive of caries or cholesteatoma. Treatment may be carried out for a period of from five to ten weeks. Surgical interference is instituted if there are no definite signs of improvement.

Another factor to be borne in mind is the geographic habitat of the patient, and whether he may obtain the services of an otologist in case of need. Therefore, it is often safer to advise operation than to shoulder the responsibility in these cases. A guarded optimistic attitude toward treatment will prepare the patient for operation in case treatment is not successful. Patients naturally prefer to avoid operation, if possible. As a matter of fact, the treatment will shorten the postoperative course, and therefore, if operation is later decided on, time is not lost.

Group 4. This group completes the classification of cases of chronic suppurative otitis media. In these cases there are definite positive signs for surgical intervention, such as irritation of the labyrinth, symptoms of extension to the sigmoid sinus, lateral sinus, or brain, or the extent and severity of the disease. If the symptoms are not too threatening, it has been found that local treatment for a week or ten days puts the field in much better condition for operation, and the length of time involved in postoperative treatment is shortened.

General Discussion

The treatment and management of chronic suppurative otitis media has been more satisfactory at the Mayo Clinic since cases have been classified. Haskins says that, in all his private practice, he has not had to resort to radical mastoid operation. This is easy to understand if the cases fall into groups 1, 2, or 3. The patient must be willing to be kept under observation and follow directions carefully. One cannot say that all cases of chronic suppurative otitis media are amenable to treatment nor that all should be subjected to surgical measures. Immediate surgical intervention seems hardly justifiable, although it can be said in its defense that serious consequences may be thus eliminated. If this attitude should be adopted toward the disease, clinical judgment would not be taxed greatly in choosing cases for operation. It has been noted repeatedly by otologists that operation is not performed to clear up the discharge, but to eliminate the disease. From the patient's standpoint, however, if the discharge continues after operation, no matter from what cause, the purpose of the operation has been defeated. For this reason, both the surgeon and the patient should have a clear understanding as to what may be expected.

Jenkins classified chronic suppurative otitis media in respect to operative treatment. In certain cases in my group 3, he would have used a modified radical operation. I have not found such operation satisfactory.

Occasionally, roentgen-ray examination will influence one's opinion, even in face of physical signs in the middle ear. It is well known that it is rather difficult to interpret all roentgenograms in cases of chronic suppurative otitis media because of the osteosclerosis, which is the result of long-continued chronic infection. The roentgenogram is of little significance unless definite changes are apparent, such as cavities or sharply defined opaque areas strongly suggestive of cholesteatoma.

During the last ten years more than 2,000 cases of chronic suppurative otitis media have been observed in the Mayo Clinic. Treatment has been carried out more satisfactorily by the adoption of the empirical clinical classification, both from the patient's and the physician's standpoint. The results of conservative treatment are satisfactory and, with improved methods and the application of suggestions gleaned from experience, are becoming more so. Cases may be classified clinically with surprising accuracy, and the accuracy of prognosis is also enhanced.

ABSTRACT OF DISCUSSION

John R. Simpson, M.D. (Pittsburgh, Pa.): Most otologists are too conservative in their attitude toward a chronic suppurating ear. I agree with Ballance in his statement that the radical mastoid operation is one of the best operations in modern surgery, and believe that it should be resorted to more often. Dr. Lillie's classification is new to me, and may be useful in our work. I find it difficult to decide whether an ear case is dangerous or not. Some that have been regarded as innocent have turned out to be alarming.

Paul H. Walter, M.D. (Bethlehem, Pa.): Is there not a class of cases in which the constitutional picture clears up only with a radical mastoid operation?

DR. LILLIE (in closing): The points brought out by Drs. Simpson and Walter are important. There is no question that there are certain cases which require operation immediately, and they fall into my group 4. But many middle-ear conditions do not require a radical mastoid operation, I am certain. In regard to the advisability of operation from a focal-infection standpoint, if one can clear up the middle-ear infection by local treatment, as much is accomplished as though operation had been done. If the condition does not respond, it is largely a matter of judgment whether or not a radical operation is needed. I believe, as I have previously stated, that the term "chronic otitis media" has been used too broadly. It is too elastic, and if we modify the term and speak of certain types of chronic otitis media, we will know what we are talking about.

CERTAIN ETIOLOGIC FACTORS IN CHOREA*†

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The purpose of this paper is to present the outstanding results obtained through the removal of certain specific causes found in the oral cavities of patients suffering from chorea.

These cases were all characterized by the twitching, jerking, and other incoördinated movements, at times very extreme, which usually occur between the ages of six and twenty, sometimes later, and known under the general name of chorea, major and minor.

Some fifteen years ago, I was much impressed by the remarkable improvement occurring through the removal of an impacted mandibular third molar. However, it was obvious that impacted third molars could not be the sole cause, as the disorder sometimes occurred before the age when third molars developed. It was also obvious that the disturbance could be precipitated by an interference with the nervous mechanism associated with the distribution of the so-called first and second divisions of the fifth nerve.

In all the cases since that time which have been referred to my service, we have been able to secure definite and positive results, although it has not at all times been easy to put a finger on the exact causative factor.

A case reported in a former contribution[1] detailed the precipitation of the same choreiform cycle each time the causative tooth reached the peak of its impaction, and as each succeeding impaction was removed the recurrent syndrome subsided and has remained quiescent ever since. Recently in this patient there has appeared a mere suggestion of returning symptoms, and a roentgenogram reveals an enlarging radicular cyst in an edentulous part of the mandible.

In a recent series of cases, cures have been effected by the removal of the following causative factors: three cases by the removal of impacted third molars, both maxillary and mandibular; one case by the removal of an impacted mandibular bicuspid; two cases by spreading of contracted maxillary arches; two cases by the removal of enlarging granulomas or cysts from the first molar area of the mandible; and one case by the freeing of a hyperplastic maxillary left third molar. In the latter patient's youth, soon after fourteen, a second molar had been lost, and the developing third molar enlarged to at least three times the average size, precipitating the choreiform cycle which was relieved by exposing the tooth about two years before the normal erupting age. This hyperplasia or enlargement of the teeth during the developmental stage sometimes occurs as a compensatory effort for the early loss of dental organs, and may be so exaggerated as to have the same effect as an impaction.

It must be borne in mind in connection with the cysts which precipitate this reaction that the follicular cyst plays its part as well as the impaction or the radicular cyst. When a tooth is inhibited in its eruptive cycle there is usually an enlarging of the follicle rootwise; in normal eruption, this is in a coronal direction.

This rootwise enlarging of the follicle has the effect of relieving pressure from the impaction, but at the same time may precipitate a neurologic reflex by the extension of the pressure area to the susceptible parts, this depending entirely upon neuro-anatomic relations and the susceptibility of the patient. There is another syndrome frequently found in these chorea cases with which the foregoing observations dovetail; that is, myositis or myocarditis. It is an established fact that it is from the cyst wall that oral focal infection is most frequently disseminated. Since some form of cyst usually accompanies the causative factor which we have found to produce the reaction peculiar to chorea, it is logical to expect focal pathology to be associated with the reaction. This focal reaction need not necessarily be dental in origin, nor are there always focal manifestations in these cases. An example of the associated focal syndrome, not dental in origin yet playing a direct etiologic part, is found in diseased tonsils and adenoids. It can readily be observed that tonsils and adenoids play a part in producing the malformed dental

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* Presented before the Montour County Medical Society, June 25, 1927, Danville, Pa.

† From the Dental Department of Geisinger Memorial Hospital, Danville, Pa.

arches which, in turn, produce the developmental defect that may furnish the exciting stimuli for a chorea. Thus the focal source, i.e., tonsils and adenoids, is sometimes the indirect cause of the developmental or other defects which directly furnish the mechanical cause for the spastic cycle associated with chorea. The following case history vividly portrays how elusive the mechanical stimuli may be.

The patient, A. R., female, white, aged 16, had a series of illness after she was four years old. At that time she had typhoid fever. Following the latter illness, a running ear developed which lasted four or five years. A tonsillectomy and adenoidectomy were done at six years of age. In August of 1919, aural polyps developed which had to be removed. After two or three years the ear stopped discharging. The patient grew and developed steadily until May, 1925, when she was admitted to the Geisinger Hospital suffering from chorea complicated by soreness in the joints. Examination at this time showed a restless girl, poorly developed, who could not lie still in bed for one moment. Uncoördinated movements involved the whole body, especially the arms and legs. She could walk and feed herself at that time. In addition to the chorea she complained of pain in the joints, especially the knees, but there was no local redness, swelling, or tenderness. The physical examination showed further that the tonsils had been removed. She had a perforated ear drum on the right side with impaired hearing, but no tenderness was noted over the mastoid. The heart rate was fast, averaging about 85, but the sounds were good and no murmurs were audible. The temperature, upon admission, was 100 3/5°, which gradually settled down to normal with the exception of about 3/5° variation in twenty-four hours. She was discharged from the hospital on June 12, 1925, improved slightly. During this period of hospitalization she was kept at rest and given Fowler's solution, sodium salicylate, and sodium bicarbonate.

After returning home, the patient gradually went down hill and came to the place where she could no longer feed herself on account of the incoördination. She was readmitted to the hospital on July 2, 1925, at this time presenting a picture of frank chorea, ordinarily classed as chorea major. No headway was made with the patient for the first few days, so she was referred to me by the medical service on July 25, 1925.

This child presented a very marked chorea, with twitching of the hands and arms, also inability to control the tongue. Her mentality was not very high. There were predisposing hereditary findings. The mother died of some acute cardiac trouble when a young woman in her thirties. The stepmother, who was also her maternal aunt, had tuberculosis. Another aunt, who had died, was reported to be an inmate of a house of ill fame. The maternal grandfather was indigent and did not support his family. There were other members of the mother's family who would be classed as lacking mental and moral balance. The child was classed by her teacher as a moron, with a marked tendency toward thieving. Her father's history was not known.

An x-ray of the mouth showed the following preoperative findings: In the sixth area of the right mandible there was a large granuloma involving the mandibular canal. The sixth tooth of the right maxilla was nonvital. The maxillary left eighth and the mandibular left and right eighth were unerupted, but were not yet due. The mandibular right sixth was removed and the cyst enucleated on July 28th. The remainder of the mouth was not cleared, as we felt this to be the causative factor. After the twitching had subsided, the right mandibular eighth was exposed, and the left maxillary eighth and right maxillary sixth were removed. This was done merely to clear up the other possible or potential pathology. A culture from the radicular cyst of the right mandible, after it was planted anaërobically on agar and oil, showed a slight cloud along the stab, and a small diplococcic streptococcus.

We believed that the pertinent factor in this case of chorea was the cyst in the right mandible, and it was for this reason that we removed it before disturbing the other pathology in the mouth. The almost immediate subsidence of the chorea complex indicates that there was pressure from the cyst impinging upon the right mandibular branch of the third division of the fifth nerve which was the cause for the specific reaction from which this child suffered. The culture was made for its academic interest, as the infection had only an indirect connection and was not a direct cause of the chorea complex. There were no postoperative complications.

Improvement of the choreiform movements was noticed almost immediately. The relatives commented on the prompt recovery after the operation. Within forty-eight hours the patient could feed herself. She was discharged from the hospital on August 5, 1925, completely relieved. She has been examined from time to time, and there is no evidence of a return of her symptoms. She was examined by Dr. Ervin on July 27, 1927, and he reported that she was in splendid physical condition. The heart had escaped any signs of damage.

It is to be seen by the foregoing discussion that at least some forms of chorea are the result of direct mechanical stimulation of the nervous mechanism supplying the teeth and their supporting structures, the most common stimuli being impacted and unerupted teeth with their follicles, contracted and malformed dental arches, unerupted or hyperplastic teeth, and radicular cysts.

In submitting this paper it is fully realized that "every man is not a proper champion for truth nor fit to take up the gauntlet in the cause of verity," yet we trust that this script may at least provoke keener observation along the line of possible oral stimuli as a cause for chorea, to the end that a clearer light may be thrown upon this heretofore perplexing problem.

Acknowledgment is made to Dr. C. E. Ervin whose encouragement has made this paper possible.

REFERENCE

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Case Reports*

SPONTANEOUS RUPTURE OF THE AORTA ONE AND ONE-HALF INCHES ABOVE THE DIAPHRAGM

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The subject of my case report was a man 58 years old, 6 feet, 3 inches tall, and weighing about 200 pounds. An athlete in early life, he had by abstemious habits and clean living maintained a figure and general appearance well above the average for his years. He was a business executive and the representative of my district in the State Senate. There was no history of acute or chronic infection. To my personal knowledge, he had always been a well, strong man. Two years before his death he had been carefully examined by an old college classmate of his, Dr. Elliott P. Joslin, of Harvard University, who said he was in excellent physical condition. I had seen this man occasionally over twelve years for minor ailments, usually so-called bilious attacks. These were transitory, and marked by headache and mild vertigo. During these twelve years his blood pressure had maintained a level of 160/90. In the last two years there had been an occasional missed systole. No other cardiac signs were present. There was no undue thickening of the radials.

On January 9, 1926, the patient reported to me for a routine physical examination. This was negative except for the slightly elevated systolic pressure and an accentuated aortic second sound. At that time we had x-rays of the teeth made, and certain blood chemistry done: Blood sugar 98 mg., blood urea 22 mg., blood Wassermann negative, hemoglobin 80 per cent, red cells 5,330,000, white cells 5,600. Differential count: polymorphonuclears 56 per cent, small mononuclears 42 per cent, large mononuclears 2 per cent, urine negative. The dental films showed several apical infections, and these we had taken care of.

I had no occasion to see the patient again until December 29, 1926, when, at 8 p. m., while apparently in perfect health, and without preceding exertion, he was attacked by a violent pain sharply localized in an area the size of a silver dollar, and centered over the spine at the twelfth dorsal vertebra. The pulse and temperature were normal, the respirations slightly accelerated. The patient, although in obvious pain, was of excellent general appearance, and the physical findings were negative. Morphin, gr. 1/6 hypodermically, and repeated in a half-hour, only partially relieved. By morning he felt much better. His blood pressure was then 190/105. His urine contained a few white cells and an occasional red cell. He felt at times a slight tightness in the left subcostal region, and found that the pain in his back was lessened by flexion of the spine. He had in the next three days several paroxysms of pain similar to the above, in each of which he was given 1/3 gr. of morphin. The most probable diagnosis was a renal calculus, although the definite characteristics were lacking.

On January 3d, at 2 p. m., four days after his first attack of pain, while entering Hamot Hospital, Erie, for a thorough diagnostic study, he had a final attack of pain in the region of the twelfth dorsal vertebra, and died within a few minutes. A partial postmortem was obtained, but not until the body had been embalmed. The heart was of normal size, and no gross lesions were discovered. The aorta was of normal size, and only moderately thickened. Death had occurred from a rupture of the thoracic aorta about one and one-half inches above the diaphragm. There was no aneurysmal sac; the rupture was a three-way tear through an atheromatous plaque.

*Case reports by Drs. Strickland and Cashman were read at the General Meeting of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 5, 1927. Those by Drs. Cassidy, Armitage, Gibby, Wagner, Kunkel, and Harley were read before the Section on Surgery, October 6, 1927.

ECHINOCOCCUS CYST OF THE LIVER

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H. L., aged 34, white, Italian, barber. His chief complaint was pain in the abdomen, back, and shoulders. The onset occurred about seven years ago with a severe attack of pain in the epigastrium, but no nausea nor vomiting. Morphin was given, which relieved the pain, and the patient was all right the next day. Four years later, a similar attack was relieved by a hypodermic. Last year, the patient was sick for ten days with pain requiring hypodermics. At this time, the pain was referred to between the shoulder blades. After this attack the patient entered a hospital for study, and was told finally that he had trouble with his gall bladder. He refused operation. He was then well until two weeks before admission to St. Francis Hospital, when he had these attacks of pain recurring every few days and requiring hypodermics for relief. The patient's only other complaint was constipation. He had no nausea nor vomiting, but would put his finger down his throat to induce vomiting, which he thought might relieve

his pain. He was well between attacks, and without indigestion.

At physical examination, the patient looked ill. His tongue was coated, his pulse 100, and temperature 100°. The heart and lungs were negative, the abdomen flat, but there was marked tenderness and rigidity in the epigastrium. No definite mass was felt. The urine was negative, the blood pressure 120/78, and the blood Wassermann negative. Differential blood count: Polymorphonuclear neutrophils 94, eosinophils 1 per cent, small lymphocytes 2 per cent, large lymphocytes 1 per cent, large mononuclears 1 per cent, transitionals 1 per cent. An x-ray of the gall bladder after ingestion of phenoltetraiodophthalein showed no evidence of dye in the gall bladder.

The history of repeated severe attacks of pain, the tenderness and rigidity in the epigastrium and right hypochondrium, the fever, and the x-ray findings were strongly suggestive of empyema of the gall bladder. The patient's temperature was 101° just before operation.

At operation on March 5, 1927, the abdomen was opened under ethylene-ether anesthesia and the gall bladder found negative. Protruding from the upper and anterior surface of the left lobe of the liver, and adherent by readily separated fibrinous adhesions to the posterior surface of the ribs, was a smooth, white, rounded mass about three inches in diameter. The wall of this mass was firm, but gave the impression of being cystic. A needle was inserted, but only a few drops of a yellow, turbid fluid could be obtained. On palpating the mass, it was felt to extend almost to the under surface of the lobe of the liver.

It was carefully walled off with gauze and incised. The wall was dense and fibrous, and about 1½ cm. thick. The cyst cavity was filled with inspissated gelatinous fluid, and very many collapsed cysts. A few cysts were partially filled with fluid. These cysts could be readily lifted out with tissue forceps until the cavity was empty. On palpating the inner surface of the cyst, it was roughened as though with short spicules of calcareous material. It involved so much of the lobe of the liver that excision was not thought advisable, especially in view of evidence of recent inflammation. The peritoneum was therefore sutured to the cyst wall around the incision, and crescent-shaped portions of the wall on each side of the incision were excised for examination, leaving an elliptical opening into the cyst. The inside of the cyst cavity was treated with strong carbolic acid and alcohol, and filled with gauze.

The patient made a good recovery, and the gauze was removed in six days. Two weeks after operation there was considerable drainage of bile from the cavity, which was only about one-half of the original size. The fluid from the cyst contained a Gram-negative bacillus. An echinococcus complement-fixation test, which was done after operation, was strongly positive. The fluid in the daughter cysts contained typical hooklets.

The interesting points of this case are: the recurrent severe attacks of pain, the acute symptoms due to recent infection, simulating empyema of the gall bladder or possibly a slow leak of a gastric ulcer. We do not believe that it was possible to make a diagnosis in this case without laparotomy. The presence of a palpable tumor in the region of the liver might have suggested the condition; but in this case, the mass was completely covered by ribs, and could not be left. Severe pain is uncommon in these cysts unless infection occurs.

This patient does not like dogs, and he has never had one in his home. He has been in this country fifteen years. Previous to that, he lived in Naples, Italy, where he worked as a barber and as a tailor.

DUPLEX UTERUS BICORNIS

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Embryologically, the uterine tubes and the vagina are formed by the fusion of the two Müllerian ducts, the fusion taking place from below upward. Failure of normal fusion results in many varieties of abnormality, and it is a case of almost complete lack of fusion that I wish to report.

Miss M. P., aged 18, by occupation a viscose reeler, was admitted to the Lewistown Hospital on February 15, 1927, with the following history: For a year she had been suffering from pain in the lower abdomen which was always present to some degree but at times became cramplike and very severe. The pain was low down and equal in both lower quadrants of the abdomen. The sides were unusually tender if pressed upon. During this time she had had a bloody vaginal discharge almost continuously. This became more profuse when the pain became severe. At such times she often expelled clots.

Her father was living and well at the age of 63, and her mother at 52. Five brothers and three sisters were living and well. One brother had died in infancy.

Her previous illnesses included scarlet fever, measles, mumps, and pneumonia twice. Her menses had begun at twelve. They had been very irregular and of long duration—usually with clots and cramplike pain during the period.

The laboratory report was as follows: Urine, catheter specimen, negative. Red blood count, 4,102,000; white blood count, 12,000; hemoglobin, 78 per cent; lympho-

cytes, 21 per cent; large lymphocytes, 3 per cent; polymorphonuclears, 76 per cent.

The patient, a girl of medium size, did not present the appearance of illness. Physical examination was negative except for tenderness on deep palpation above the pelvic brim on both sides. Vaginal examination revealed a vagina which easily admitted two fingers, and a pinkish vaginal discharge. The cervix was normal, the uterus was small, and there was a movable sausagelike mass over each appendage. A diagnosis of bilateral hydrosalpinx was made.

Before operation, a second vaginal examination was made under anesthesia, and a septate vagina was found. The patient was placed in the lithotomy position and a speculum was introduced into the right vagina. A normal-looking cervix with a small os appeared. The same was found in the left vagina. Two large masses separating from the double cervix were felt on bimanual examination. A uterine probe entered each cervix with ease to a depth of an inch and a half. Each cervix was gently dilated and a blunt curettage done, but no cause for the bleeding was found in utero.

The abdomen was opened through a median incision below the umbilicus. The appendix was chronically diseased and was removed. Two uterine horns were found to enter the fused cervix, the tubes coming directly off each horn. The ostia were sealed, and both tubes were distended somewhat larger than a sausage with blood clots. There were no pelvic or tubal adhesions. The tubes and blood clots were removed, but the ovaries and uterine horns were not touched. Other abdominal organs were normal. Recovery was uneventful. The patient menstruates irregularly, but without clots or pain.

I have seen three other somewhat similar cases—one of uterus bicornis unicollis in a girl of eighteen who had a large ovarian cyst; another of septate uterus in a woman of twenty-six, with pregnancy and threatened abortion in the left half; and a third of uterus bicornis unicollis with a septate vagina in a woman of forty-four. In the latter case the left vagina ended blindly. This woman had borne thirteen children, with two pairs of twins. The uterus was removed, and it was the opinion of the pathologist that both horns had carried embryos.

EXTENSIVE GANGRENE OF THE STOMACH

HARRY M. ARMITAGE, M.D., F.A.C.S.
CHESTER, PA.

The lesion I shall report is unusual, but it is apparently one of the most overwhelming surgical catastrophes with which one may be confronted. The cause is vague, and the literature upon the subject is scant. The treatment is ineffectual, and at best will probably consist of a rather disconsolate effort to close a gaping hole in a gangrenous surface. However, extensive gangrene is rare while ruptured ulcers are common, and naturally enough, in cases presenting the symptoms of a ruptured stomach, one prefers the measurable risk of operation to the immeasurable risk of surgical procrastination. In the following case, I am able to offer only a few comments regarding the cause and report a futile attempt to save the patient's life.

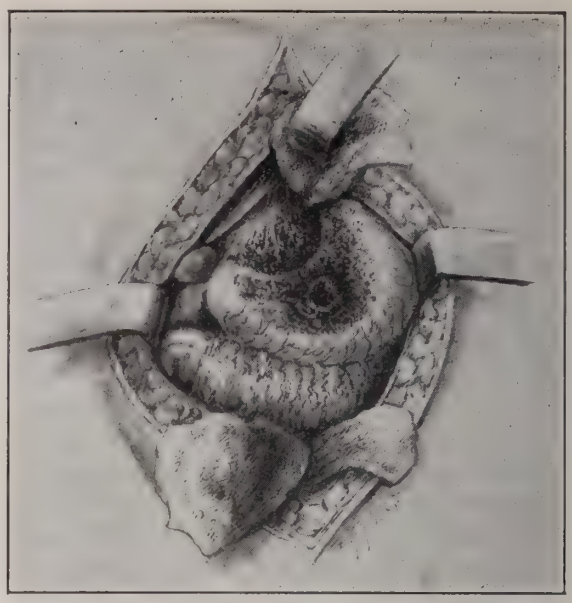

Fig. 1. The stomach as it appeared at operation.

On March 14, 1927, the patient, a girl aged 19, occupation telephone operator, was referred by Dr. F. Nyemetz, of Chester, with the complaint of abdominal pain and a diagnosis of ruptured gastric ulcer.

The only point of interest in her family history was that her younger sister had been treated for purpura. Her own health had been good until a week before, when she had contracted a rather severe sore throat. Previous to this she had never been sick except for a very mild type of digestive disturbance for which she did not consult a physician.

Her present illness had begun after a trip to New York two days before. She ate nothing during the day, and her evening meal consisted of meat, mashed potatoes, and peas, followed by a chocolate soda. Her first warning of impending trouble was a lancinating pain in the abdomen shortly after she boarded the train. She was nauseated but did not vomit, and arrived home at midnight very sick but able to walk. During the night and the next day she was harassed with agonizing pains and constant vomiting. The abdomen swelled, and she was seized with a severe chill. The family physician was called at night, and immediately diagnosed the case as a ruptured gastric ulcer.

The abdomen was greatly distended. There was general tenderness and rigidity, most marked over the appendix. Her temperature was 101° and pulse 120. The rest of the physical examination revealed nothing of interest.

When the abdomen was opened, a great amount of gas and fluid escaped. The anterior wall of the stomach was almost entirely gangrenous. The gastrohepatic omentum was gangrenous as far up as I could see. In the center of the gangrenous area was a large perforation, and close to it another. These holes had extremely thin walls which were ragged and irregular, appearing to be disintegrated spots in the gangrenous area. Toward the cardiac end of the stomach beyond the black area, the wall was mottled with black spots. The mucosa on the posterior wall

could be easily seen as the wound in the stomach was spread open, and it appeared dark red, not brightly congested. A resection was impossible and the girl was dying, so the gangrenous area was quickly whipped over with catgut. Death followed a few hours after operation.

An anaërobic bacillus was present in a culture taken from the contents of the peritoneal cavity.

As soon as the patient left the operating room a blood-platelet count was made, having in mind the fact that one member of the family was said to have purpura. The count was 93,000. This is, of course, under normal.

The number of blood platelets in healthy persons is not definitely established, however. Figures between 130,000 and 750,000 per cubic millimeter have been cited. Such variance is probably due to lack of precision in the technic employed. Based upon the findings of several authors, the average is about 350,000 and the maximum 450,000 per cubic millimeter.[1]

The gangrenous process could hardly have been an end result of phlegmonous gastritis, since this exists in two forms, one ending as an abscess in the submucosa and the other resulting in a pale, succulent, edematous submucosa.[2] In 1873 Gintrac reported a case of gangrene of the stomach which he believed to be due to a functional disorder of the splanchnic nerves.[3] Three other cases were reported by Mopert,[4] but they all occurred as a complication of diaphragmatic hernia. Gangrene of the stomach from circulatory disturbances can be largely discarded on account of the difficulty of interfering with the circulation of a large part of the stomach. Attempts have been made to interfere with the circulation in parts of the stomach wall. These include procedures affecting the larger vessels and also the capillary circulation. Littauer's observations have been confirmed by Ivy, who ligated six to eight of the gastro-epiploic vessels supplying the pyloric portion of the stomach, with negative results.[5] Braun demonstrated that four-fifths of the blood supply of the stomach may be cut off without necrosis.

Fig. 2. Interior of stomach as seen at operation.

Conclusions

This was a case of gangrene of the stomach of unexplained origin. It was probably not due to circulatory disturbance or direct chemical action. Bacterial infection through the blood stream, with a direct effect of the toxin on the tissues, should be considered as a cause. Purpura may have been in the background, although this was not definitely proved.

400 East Thirteenth Street.

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PROPERITONEAL UNILOCULAR HERNIA OF THE SIGMOID

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A perusal of the literature on hernia shows a very large variety and some very unusual forms of this affection. The case reported herewith is of interest not only on account of its unusual features, but also because of the impossibility of making a correct diagnosis previous to operation, and the possibility of mistaking this comparatively harmless condition (in that it was readily amenable to treatment) for one of the gravest import.

The patient, a Russian Jew, 37 years old, 5 feet 9 inches in height, and weighing 228 pounds, presented himself for examination on March 8, 1927. He had resided in this country 16 years. He had six brothers and one sister, all living and well. One sister died in infancy. His mother is living and well, and his father died at the age of 60 years, following an illness of three months, during which time he suffered from some lung affection. His own early history had no bearing on the present condition. While in the army in February, 1919, he had an attack of grip of one week's duration, and from this illness on there was slight constipation. Following his discharge from the army he engaged in the grocery business with one of his brothers and has continued in the same business up to the present time. He occasionally lifts weights up to 150 pounds, but has

felt no inconvenience whatever from his occupation. There is no history of any previous surgical operation.

About two years previously, he noticed a sausage-shaped mass in his left side, but until quite recently this had caused no trouble beyond a slight increase in his constipation. However, during the two weeks prior to his examination, this mass had become painful, and somewhat tender to pressure.

A careful physical examination disclosed no other abnormality than the tumor, which could be felt plainly through the rather fat abdominal wall. It was sausage shaped, slightly tympanitic, about four to five inches in length, and it lay parallel to and two inches above Poupart's ligament.

The patient was referred to Dr. Lewis L. Rogers for a roentgenologic examination, and on March 10th Dr. Rogers reported that a barium enema filled the rectum and sigmoid practically to the junction of the descending colon, where there seemed to be some obstruction which did not permit the enema to pass beyond this point either under pressure or manipulation. A barium meal administered a few days later showed at the end of twenty-four hours a descending colon well filled, with a very definite narrowing at the junction of the descending colon and sigmoid, although some of the barium had passed distal to this area which corresponded exactly to that outlined by the enema a few days previously. The patient also consulted Dr. Julius H. Hertz of New York, whose findings were practically the same as those outlined above. Dr. Hertz was of the opinion that the patient probably had a retroperitoneal tumor, possibly sarcoma, and advised an exploratory operation.

On March 29th I opened his abdomen through a left-rectus incision. At a point about two and one-half inches above the pubis and at the outer border of the left rectus muscle, a loop of the sigmoid was found drawn into a cavity whose opening into the abdomen was one inch in diameter, and which extended between the peritoneum and the abdominal fascia, in a line parallel to Poupart's ligament, to a point opposite the anterior superior spine of the ileum for a depth of about four inches. The cavity was more or less cylindrical in shape, and the sigmoid loop was held incarcerated within the cavity by adhesions between some of the appendices epiploicæ and the hernial sac. As it was impossible to draw the sigmoid back into the abdominal cavity by traction, a counter incision just large enough to admit the index finger was made above the anterior superior spine, and by pressure on its apex, the hernial sac with its contents was inverted into the abdomen, the adhesions between the appendices epiploicæ and the sac were severed, and the sac cut away and the hernial cavity obliterated. The abdomen was closed in the usual manner, and the patient made an uninterrupted recovery.

An incomplete search of the literature on this subject has failed to reveal any similar case. The etiology of the hernia has remained in doubt, as the patient had a well-formed muscular abdominal wall, with no break whatsoever in the fascial and muscular layers. The unusual character of the tumor, with the partial intestinal obstruction led us to believe that we were dealing with a growth involving the wall of the sigmoid, probably malignant in character.

96 South Franklin Street.

RHABDOMYOSARCOMA OF THE BUTTOCK

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The patient, a man of 40, white, mechanic, came to the St. Francis Hospital complaining of pain, swelling, and a sore in the right buttock. He stated that his trouble had been present for the past fifteen years, and began with a small nodule about the size of a pea which was situated in the mid portion of the right buttock. The growth was excised at that time under local anesthesia, with primary healing. A few months later the mass reappeared, and continued to enlarge slowly until 1919, when it was excised under general anesthesia at McKeesport Hospital. A year later the tumor mass reappeared, and gradually grew to about the size of an orange. It was situated deep in the soft parts, and save for its presence, gave the patient no concern. For two years before admittance, he had been treated at irregular intervals of a month to six weeks with deep x-ray therapy by a competent roentgenologist of Pittsburgh. Three weeks before admittance, a small sore about the size of a dime appeared over the crest of the mass, and one day while at work the patient had a profuse hemorrhage, necessitating first-aid treatment and rest in bed, with the ulcer gradually enlarging.

Local examination showed the presence of a tumor mass situated in the mid portion of the right buttock, extending from the crest of the ilium to within 5 cm. above the gluteal fold, and laterally embracing almost the entire buttock. The mass was firm in consistency, extending deep into the soft parts, and rather freely movable. There was no pain save on deep palpation. In the center of the mass was an ulcer, the size of a half-dollar, with irregular edges, having a punched-out appearance, and extending deep into the soft parts approximately three cm.

The patient's past history was negative for any other illnesses or diseases. He denied lues, was married, and had raised a family of five normal children. Our impression was that he had a chronic inflammatory cellulitis, chronic granuloma, or benign tumor, and that radical excision was indicated.

On February 10, 1926, the tumor mass in the right buttock was excised. It was found to undermine the superficial tissues, and was somewhat globular in outline. It was about the size of a large orange, and was limited to the soft tissues only. After operation there was considerable hemorrhage. The wound was partially sutured and Carrel-Dakin treatment instituted, followed in one month by skin grafting. The microscopic diagnosis was rhabdomyosarcoma of the buttocks. On April 22d, the patient left the hospital and returned to work.

On November 20th, he was readmitted. He had been perfectly well, working until two weeks previously, when he noticed a small mass about the size of an olive in the mid portion of the right buttock beneath the skin graft. Excision of this mass was carried out, and it was found to extend into the deep tissues toward the superior sacrosciatic notch, and was seemingly attached to the side of the sacrum. By palpation with the finger, one deeper mass the size of a pea was discernible, and it also was excised. It was definitely attached to the ligamentous structure of the sacrum. On December 20th, the patient was discharged, the healing being complete.

On July 28, 1927, he was readmitted, with a history of having noted the mass for the past four months. Examination showed a mass about the size of a hen's egg situated at approximately the same location as noted before. A diagnosis of recurrent rhabdomyosarcoma was made, and excision was carried out. On September 22d the patient was discharged from the hospital, although a small discharging sinus was still present.

This case was thought interesting enough to report, first, because of the length of its duration, now seventeen years; second, because of the multiple excisions with recurrence; third, because of its treatment over a period of two years with the x-ray; and fourth, because of its position.

In perusing the literature when first examining this patient, I was able to find approximately sixty-two cases of true rhabdomyosarcoma reported in adults, and of these not one had been reported as occurring in the buttocks. There had been several referred to as "pelvic," and one or two as "caudal," but never any definitely described in this location.

Rhabdomyosarcoma is usually found in childhood, and is often congenital in origin like teratoma. They are usually homologous in their location, that is, arising from organs in which the striated muscle is normally present, but they may be heterologous, arising from a totipotent or pluripotent cell. If they are heterologous the genetic relationship is shown by position or in organs prone to develop teratoma, such as the urogenital system and the poles.

As to the cause or origin, there have been many theories. Some men hold that these develop by metaplasia. This may be possible, and if true, it explains the origin of rhabdomyosarcoma where there is no striated muscle present, but if they develop from the origin of the striated muscle, the process of anaplasia must take place before metaplasia. It must be a process of anaplasia or reverting back to the original mesodermal cell before the tumor can take place. Ribbert, who gave considerable study to the origin of these tumors, first believed in metaplasia, but later after exhaustive study embraced the misplacement or anlage theory; that is, a cell rest or anlage of either undifferentiated mesodermal striated muscle or mesodermal cellular material giving rise to muscle or other mesodermal tissue. Marchand and Burka in their report leaned toward the theory of the caudal teratoma type. The theory of embryonic displacement seems at least to explain the heterologous tumors. Homologous rhabdomyosarcoma, such as was this tumor, arises from normally placed striated muscle. Even in these cases, embryonic maldevelopment appears to be a necessary precursor of the tumor; at least, there appears to be a process of failure or inhibition of differentiation of the cells.

Histologically, these tumors are usually composed of young cellular tissue which has a structure of embryonic striated muscle. The embryonic cells are branched and striated, and at times so united as to form a syncytial mass with fibrillary markings. In this mass are many definite fibrous tissue cells and their undifferentiated cellular tissue, which cannot be told from the ordinary sarcoma cell unless the striation or fibrillation can be detected in an occasional cell.

As to malignancy, these cells occasionally metastasize, but are usually malignant locally only, necessitating amputation and radical excision. Zenker reported a case of orbital rhabdomyosarcoma, which recurred twice, finally causing death. Nicary reports a case of the uvula with frequent recurrence and finally death.

At the time of last operation in this case, this tumor was definitely found attached to the covering of the sacrum. Just what the outcome will be is extremely hard to tell, and will merit watching and further study. I believe further x-ray treatment is contraindicated, because of the patient's past experience.

1027 Carnegie Building.

CHRONIC INTUSSUSCEPTION OF THE DESCENDING COLON

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F. L., male, aged 37, married, during July, 1926, first began to complain of transient "gas pains," localized chiefly in the center of his abdomen, below the navel, occurring about every two hours and especially noticeable after a large meal. There was no impairment of appetite at this time. His stools were small, about the size and shape of walnuts. For two months the patient resorted to "Plant Juice" for relief, but his pains became gradually more severe and frequent in occurrence. He consulted a physician toward the end of September, 1926. At this time he was awakened every three hours at night with abdominal pains. However, he had a daily bowel movement without artificial aid, albeit with considerable straining. His stools at this time were smaller, "crumbly," and soft, but there was no nausea or vomiting.

His subjective condition remained the same until the middle of February, 1927, when he noticed a raised area below the navel which moved about, and his constipation increased; occasionally two or three days elapsed without a defecation. The patient never noticed gross blood in his stools. February 21, 1927, a gastrointestinal x-ray was taken, which revealed a visceroptosis but no organic lesion. A barium enema was not given at this time. Vomiting began March 12, 1927. The vomitus was bilious, becoming fecal, and persisted for four days, with no bowel movement in spite of fre-

quent cathartics. On the second day a barium enema was given, and an x-ray examination of the colon showed an obstruction below the splenic flexure.

The patient was operated upon March 16, 1927, four days after the onset of vomiting. On opening the abdomen through a left-rectus incision, an intussusception of the descending colon just below the splenic flexure was found. Considerable difficulty was experienced in mobilizing the involved portion of bowel on account of its proximity to the splenic flexure. A Mikulicz first-stage operation was done. Four days later the external loop was excised, and a sessile papillomatous nonmalignant growth the size of a silver dollar was found on the mucous side of the anterior wall of the colon. The patient made a comfortable convalescence during the subsequent seven weeks, when a final closure of the colostomy was done.

This man's general health had always been good. He had never had any gastro-intestinal symptoms prior to the onset of this illness. His weight before onset was 170. At the time of operation it was 125 pounds. During the summer of 1927 his weight reached 150 pounds. Venereal disease was denied, and his family history was not remarkable.

There is a vast amount of literature on intussusception, but the great majority of reported cases were of the usual ileocecal type. A hasty review of cases simulating the one just reported reveals several interesting factors in causation. Balfour reports a pedunculated malignant papilloma of the sigmoid, causing a retrograde intussusception. Farr, in discussing intussusception in the adult, claims that the most common cause is the combination of a tumor and a long mesentery. Jopson, however, reported a case of chronic intussusception of the large intestine in an adult in which no tumor was found. The type of intussusception was not indicated. Edwards reported a case of cancer of the transverse colon and intussusception.

The theoretical possibility of such a complication, arising in the presence of a pedunculated tumor at any location in the gastro-intestinal tract is self-evident, but the fact that an intussusception may occur without an initial tumor renders it the more important to keep this in mind in all differential diagnoses of intestinal-tract symptoms that suggest obstruction. Fortunately, all such cases can be detected by x-ray, which readily localizes the lesion and even distinguishes between the usual and retrograde types.

The diagnosis having been established, an incision appropriate to the proposed surgery can be made. The latter, of course, depends to a large extent upon the patient's clinical condition, and varies from a simple colostomy in profoundly toxic patients to a Mikulicz or a primary excision and anastomosis in incomplete obstruction. The Mikulicz is applicable in the majority of cases, as it furnishes a vent within twenty-four hours, and at the same time lends itself to a subsequent excision of the primary lesion, without additional intra-abdominal surgery.

601 North Front Street.

NEPHROLITHIASIS WITH KIDNEY DESTRUCTION

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This case of nephrolithiasis is not unusual, but it is representative of a type of sequellæ of pyelitis in childhood which is too generally treated as a clinical entity without sufficient consideration of the results following in later life.

Mrs. B., aged 30 years, weight 180 pounds, height 5 feet 3 inches, was admitted on January 20, 1927. She gave a history of several children's diseases, with good recovery. From her mother, we secured a definite history of "kidney trouble" recurring at intervals since the patient was two years old. She herself could remember attacks of right lumbar pain, followed by bladder trouble as far back as eight years of age. From then until her admission, she had had many attacks at longer or shorter intervals. In 1916, when she was 19 years old, appendectomy and cholecystotomy were done, as it was thought that the appendix and gall bladder were the cause of her complaints. Her trouble recurred shortly afterwards. On two occasions she passed gravel. She was admitted to a hospital in Florida for observation and x-ray study, which were negative as to definite evidence.

On admittance she complained of intermittent colicky pain over the right hypochondriac region and the right upper lumbar region, and referred down the right side of the abdomen and back. This was uninfluenced by diet or the condition of the bowels. Vomiting sometimes accompanied severe attacks. Chills followed by slight fever were present during the attacks of pain.

The first urinalysis revealed the presence of pus (four plus) and an occasional red blood cell. The second urinalysis on admission showed occasional pus and no red blood cells. A week later the kidney efficiency was 40 per cent in two hours. Cystoscopic examination showed that the right ureteral orifice was congested and pouting. The left ureteral orifice was normal. A specimen of urine from the right kidney contained pus (three plus) and an occasional red blood cell; from the left kidney, neither pus nor red blood cells. The leukocyte count was 13,500, the Wassermann negative, and examination for gonococci negative.

The x-ray revealed several small shadows of calculi in the lower pole of the right kidney below the cholecystogram. A pyelogram of the right kidney showed marked dilatation of the pelvis, suggesting destruction of the kidney substance.

A diagnosis was made of right nephrolithiasis with kidney destruction as an end result of pyelitis of childhood. Right lumbar nephrectomy showed a chronic pyonephrosis with kidney destruction and calculi in the lower pole. The patient recovered, with relief of her complaints.

21 West Fourth Street.

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Editorials

THE MEDICAL EXPERT

Attention is called to the report appearing elsewhere in this number of the Journal of the recent meeting of the Tristate Medical Conference which was devoted to a discussion of medical expert testimony. We regret our inability to publish in full the very able address of Mr. Lloyd Paul Stryker, of New York City, counsel for the Medical Society of the State of New York. As Mr. Stryker truly states, "there has been too great a tendency, particularly marked in late years, to rush to the legislature for the correction of those evils which could be more adequately remedied by the persuasive force of public opinion and the development of conscience." The keynote of the discussion was conscience—that something in every individual which guides his acts, and when properly functioning, prevents wrongdoing.

This Journal also contains a communication on the same subject from Dr. Alfred Gordon, of Philadelphia, and a report of the meeting of the Philadelphia County Medical Society for March 14th at which one of the topics considered was the medical expert. We thus present this month a variety of shades of opinion on this much-discussed subject.

It is the consensus of opinion that something must be done by the medical profession to purge itself of the dishonest medical expert and the professional medical expert. Both types are to be found in good standing in our county medical societies. The former may be described as one who is perfectly willing to testify according to the wishes of the lawyer who employs him. The latter, in addition, will coach the witnesses for examination and cross-examination, and is continually appearing before the courts.

During March, Philadelphia newspapers fairly hummed with the publicity given to the fraud scandals in the Philadelphia courts. The *Evening Bulletin* during the month published a series of articles constituting the confessions of an ambulance chaser which pictured the inside activities of ambulance chasers, runners, and lawyers in Philadelphia. The fifth installment exposed "the methods of a group of lawyers, runners, and a certain class of physicians in developing damage claims on which they bring suit by hundreds in the courts." The following reference to the physician is taken from this article:

> With the lawyer's office assured of one half of whatever recovery may be obtained, the next step is to build up the loss and damage account to whatever pressure it will stand just short of the bursting point. And here the "gravy boat" halts to pick up a representative of yet another learned profession. I think most of us never quite outgrow the respect for his profession which the family doctor inspires in us from our earliest days. And now, when I see certain elements of the profession peddling human suffering about like so much merchandise to be disposed of to the highest bidder, I cannot quite reconcile myself to the idea. Understand, please, that I am not setting up for a reformer. I have been too long in the racket to attempt anything of that sort. And besides, it would take a tougher hide than mine to deny that I am as deep in the mud as are some physicians in the mire. Lawyer, doctor, runner, fixer—each ready to sell his convictions at a price. Each is a specialist in his line, but the real high-spot stuff, the mystic appeal to the imagination that sends the balloon soaring to dizzy heights, is almost always contributed by a physician.
>
> So it is that no seasoned skipper of a gravy boat would think of shoving off until he had on board his proper complement of medico-soothsayers and charm-workers. For without these conscientious ghost dancers of the medical profession, the big-time circuit would lose much of its spectacular appeal, and just about all of its color. A fervid imagination and a flabby conscience can and often do turn an ordinary sprained back into a functional derangement of the nervous system so mysterious in its manifestations as completely to baffle medical science. With my experience I have seen people come to the office with claims based on relatively simple injuries, and leave with a series of complications that ought to have scared them out of

their wits. But they were not, because they understood perfectly well what was going forward.

At this point I suppose I should give several illustrations of this character from among the many score which have passed through my hands. But if I did I would be instantly recognized and forever hereafter blacklisted in my profession. Nor would any defendant corporation employ me because of my past record and connections. So I decline that nomination.

It has been my experience to find that all doctors fall within three definite classifications. First, the general practitioner or family-physician group. Second, the professional-specialist type. Third, the commercially-minded, merchandising, go-get-'em crowd. If there are any others, I never have encountered them.

The family physician is exceedingly difficult to handle in the upbuilding of a case, for he invariably insists upon sticking to cold facts as he sees them, whether he helps or harms the case. It is very awkward, I assure you, when the bought-and-paid-for opinions of a specialist are ready to soar to the higher altitudes of pure speculation, to have the family physician complacently testify that the patient has entirely recovered from the effects of the injury. The trouble isn't so much that these family physicians subscribe to the ethics of their profession as it is that they will persist in living up to them. I don't know that anything can be done about it, but the "big boys" in the racket look with some concern on their attitude.

The second classification, the specialist, requires less comment. He will swear either way to a given situation, depending upon who retains his services, and guarantee a satisfactory job, provided he feels sure of his check.

The last group, the what-have-you crowd, are our own people, the shock troops of the medical profession, the up-and-at-'em boys who don't mind in the least the smell of the racket. Perhaps I should confess to a feeling of sentimental comradeship toward these allies, and perhaps I would, were it not for the fact that it is a purely business relation in which nobody trusts any one else, and every fellow keeps his eye out for himself.

With the aid of this last school of physicians we are enabled to accomplish some very wonderful results, results that make interesting reading when the defendant's check reaches our perspiring hands. Then, of course, comes the melancholy task of paying off. A part of the recovery, never more than half, and sometimes less, goes to the star of the cast, the victim. He may feel a little disappointment, but at least he now can discard his crutches and bandages and go back to the daily grind. The firm then takes a modest cut of perhaps 40 per cent for its mental anguish, the remainder being distributed among the small army of helpers who labored so faithfully to work the gravy boat into a snub harbor.

We have always contended that trial judges could do much to show up the dishonest medical expert if they would, and by lack of action are culpable. The Supreme Court of Pennsylvania admits that faked claims amount to a public scandal. In a recent decision, Justice Alexander Simpson, Jr., stated that "public policy imperatively demands that litigants and their counsel should alike be advised that, so far as the courts can control the matter, justice will not permit perjury to result in gain to the perjurer." Faked claims always mean that the medical expert in such cases is dishonest. Judge Howard A. Davis, of Philadelphia, recently asserted from the bench in Common Pleas Court No. 3 that "perjury is rampant in our courts in accident cases, and the time has come when the judges should do all they can to put a stop to it."

The American Medical Association and the American Bar Association have a committee at work on this vexatious problem of the medical expert, but we are of the opinion that it will be very difficult to arrive at conclusions that will be altogether satisfactory to the gentlemen of the Bar. There are so many technicalities and factors of expediency involved, not to mention questions of precedent, that it seems to be almost impossible to find a solution of our perplexities with respect to so-called medical expert testimony.

The ends of justice may be furthered by inquiring whether the plaintiff in a suit for personal injury first sought a physician or a lawyer before rushing to court. The wisdom of ascertaining the true answer to this pertinent question recently became evident in a New York case. As the incident is credibly related, a young woman, taking luncheon in a Wall Street restaurant, bit into some foreign substance while eating the sundae which she had for desert. "She suffered the usual distress of mind," says the chronicle, "but went to her lawyer before she consulted her physician. The alleged offending restaurant was served with a summons the very day she had the mishap with her luncheon. Her alertness in noticing the legal feature of the case before she was aware of any medical symptoms was called to the jury's attention, and the jury decided against her." The strong probative effect attributed to this circumstance seems justified. Indeed, in the campaign to put down the tidal wave of fraudulent claimants of damages for personal injury which began to rise in New York some time ago, the spokesman for two restaurant associations put the "lawyer-or-doctor" test far to the fore as a guide to truth or fraud. "Bona fide cases," he affirms, "are usually taken care of without the benefit of law. The natural reaction of an honest claimant is to talk it over first with the restaurant man or the baker rather than with the lawyers. The faker thinks first of his lawyer." The test perhaps should not be pushed too far, but "if wounds be such as writs can better heal than herbs, well may juries doubt loud-spoken woe," says the *Boston Transcript*.

It is time for action. We should start to clean house from within, and any county medical society, having satisfactory proof of any of its

members being dishonest in giving expert testimony, should require such member to show cause why he should not be dropped from membership. He should be given pitiless publicity. In this way he would be reformed or driven out of organized medicine.

THE CANCER-STUDY COURSE IN PHILADELPHIA

Elsewhere in this issue is a detailed announcement of a very valuable and intensive course for the study of cancer to be given in Philadelphia May 22d to 24th at the request of the Commission on Cancer of the Medical Society of the State of Pennsylvania. The Philadelphia members of this Society deserve great credit for their unselfish devotion in spending much time and trouble in arranging this course.

The course arises from a feeling that we must give our fellow Pennsylvanians better service when they are unfortunate enough to be afflicted with this disease. The best is none too good for them, and this course is planned to help us give the best in the greatest possible number of cases. We urge every physician and every surgeon who possibly can to attend.

We especially urge it on members of hospital staffs. We feel that no hospital staff can afford not to send at least one of its members to this course. It is certain that such a representation will generally improve the hospital's service to the community in a most important particular.

OBFUSCATING LEGISLATION

The practice of the healing art in Pennsylvania is regulated by a fair and just law which has been supplemented from time to time in order to keep it abreast of the trend of the times. A comparative survey shows that the Pennsylvania laws regulating the art of healing are the result of careful and conscientious study of those representing the law, as well as a constant wise and adequate supervision by the State Board of Medical Education and Licensure and the Department of Public Instruction. These bodies keep a close supervision over the preprofessional education and training of the individual desiring to be licensed and over the subject matter taught in professional schools as well as the character of the teaching given, and regulate the compulsory fifth year of medical education in hospitals that are able and willing to subscribe to the requirements by furnishing teaching material to graduated healers. All this is done for the purpose of increasing the standard of education and type of training given those who desire the license of a healer and producing the high type of physician commensurate with the advance of the science and art of our profession, so that the citizens of our Commonwealth may be adequately treated by men assuredly safe and competently taught.

The properly equipped schools throughout the Union, instituted for the purpose of teaching and graduating healers, have no protest nor complaint regarding the present fair and just standards maintained in the State of Pennsylvania. All graduates of schools of satisfactory standing are eligible for license under the present Act and the interpretation thereof.

It is, therefore, with pride that the Keystone State may point to the good and wholesome laws governing licensure, passed solely for the purpose of protecting the people against fraud on the part of those who are improperly prepared, yet desire to enjoy the privilege of practicing.

In Pennsylvania, as in all other States of the Union, a multiplicity of laws on the statute books simply creates confusion and clouds the issues at stake. The aim of good government is the reduction and simplification of laws to the minimum which can be reasonably and properly enacted.

The present attack upon the Medical Practice Act of Pennsylvania by the cults is made because it represents a standard too exacting, too high, and demands a healer more efficient than the cult, unlicensed in Pennsylvania, can produce. In short, a thousand persons now in Pennsylvania, many of whom are not citizens, are demanding a radical change in the law at the definite expense of the safety of the entire populace of our Commonwealth. This is undemocratic and lacks the basic principle of justice, in that this small minority should demand a recognition by law for a reactionary tendency in law-making which would bring down the standard for healers to a level lower than it has been since 1911.

The science and art of healing has transcended those early pioneer days, and need not, in this period of advancement, harken to the theories of limited systems of treatment. If the purveyors of such systems present any elements of the achievement which their egotism permits them to claim, let them act in good faith and with honest purpose, and protect their system by the fundamental knowledge necessary as a basis for any scientific endeavor. Let them proffer to society exponents honestly and adequately taught, with a background sufficient to permit them to define their qualifications and abilities before designated representatives of the State; thereby taking their so-called system of treatment out of the mystery class and demon-

strating its virtues firmly before scientific bodies interested, at all times, in honest and conscientious advancement.

If the present cults desire to be licensed without having a definite scientific premise which will bear the inspection and scrutiny of those able to judge, then the foundation of their system is false. Let them realize that legislation granting franchise for activity within the State must at all times bear the stamp of merit, and merit alone. Any régime which will validate their unsubstantiated claims and accept their blatant demands will bring chaos and ruin on the people of our Commonwealth—the only real party in interest in any legislation now on our statute books or which may be placed thereon in the future.

PHYSICAL THERAPY

In this number of the Journal will be found a symposium on physical therapy which affords an excellent opportunity for our members to determine the value of this method of treatment in general practice. The day has passed when the physician looks at the tongue, feels the pulse, and prescribes or dispenses medicine. The many instruments of precision and laboratory methods now in use must be employed to assist in making a diagnosis. Having made a diagnosis, proper treatment must be ordered. It is no longer tenable to depend exclusively upon drugs. The general practitioner must be conversant with all forms of treatment, among which physical therapy holds a very distinct place. Medical schools must include a course of lectures on physical therapy in their curricula, and no hospital equipment is complete unless it has a department devoted to physical therapy and in charge of one competent to give it efficient supervision. Very often the general practitioner may realize that a given patient should receive some particular form of physical therapy, but is not sufficiently versed in the subject to outline such treatment. Under these conditions he should seek the counsel of one who is skilled in this branch in order that the patient may receive the best available treatment.

Proper recognition in this regard, primarily, is due the patient for his best interests, and secondarily, it will offset the work of the cults and charlatans, inasmuch as the majority of them already appreciate the value of physical therapy.

Physicians must not be misguided by advertisements and literature received from manufacturers and distributors of physical-therapy equipment. They should seek proper advice when procuring requisite appliances, so as to preclude the possibility of purchasing useless equipment. The Council on Physical Therapy of the American Medical Association has a full-time secretary, of whom inquiry may be made at any time in regard to physical-therapy apparatus and proper application of physical means in treatment.

THE FEEBLE-MINDED

We are prone to appreciate medicine in its spectacular phase—such as the modern operating room, the shining steels and bistouries, the use of antitoxin and toxin-antitoxin in diphtheria, vaccine in the control of smallpox—and to overlook the strides of progress which have gradually but surely been made against the inroads of mental disease and defect.

The story of the feeble-minded reflects a striking picture of progress. Many years ago, "feeble-minded" was a term applied to all types of the mentally deranged. Today we recognize this nomenclature as representing only those types of individuals whom psychiatrists classify as idiots, imbeciles, and morons. This segregation by classification has given us a better insight into the group as a whole, not only from the standpoint of cause, prevention, and care, but also from the fact that many of the cases in this group may now be salvaged as well. In fact, it has been approximated that as high as fifty per cent can be made useful to themselves as well as to society.

Striking indeed is this progress when we contrast the old conception with the new; harmful practices with the more enlightened. The old concept that a feeble-minded child was a family stigma, a life doomed for institutional confinement, a burden to himself, his family, and the taxpayers, has been superseded by the more modern thought that a feeble-minded child may be born into any family; that birth injuries and disease are causative factors outside the pale of heredity; that by the proper guidance, care, and training, only an estimated five per cent are doomed to institutional life—the so-called idiots.

Striking indeed is the change in practices in handling these cases. The roads leading to neglect, abuse, and to the institutions of old have been offset by new paths of effort such as early recognition, child guidance, mental clinics, home supervision and training, vocational efforts, and modernized state schools dedicated to training these boys and girls for social adaptation and vocational fitness, that they may with credit to themselves fill those apparently nonessential positions which are of such vital importance to the comfort of the rank and file of society. Coloni-

zation of this group, with adaptation to supervised industry and agriculture, has placed them also in the partial self-supporting groups. Supervision of employable community groups has, in many instances, with joy and moderate freedom to these people, solved domestic problems in that particular community.

And so we say, where can we find a more interesting story? I was blind but now I see; I was lame but now I walk. Such statements are no more miraculous than this; I, too, am now of use to myself and to society—uttered by those who once were outcasts, the dumb, the dwarf, the school fool, the neglected, the institutionalized. Such is the story of the feeble-minded at the beginning of the twentieth century—the crowning efforts of the pioneers of mental medicine of the past.

Today there are thousands of feeble-minded throughout the land who are denied this privilege of adaptation to usefulness, and who through lack of funds are doomed to the old road of lost opportunity, neglect in training, social abuse, and helpless wardship. Pennsylvania, one of the wealthiest states in the Union, surely unintentionally gives her quota to this rank. In the past we might have said we did not know, but the figures and the publicity given to them by the Public Charities Association precludes such a statement today. Surely the fifty-million-dollar bond issue needed to complete the picture story in Pennsylvania will not be denied this great group of unfortunates by the taxpayers at the November election.

A NEW FEATURE

Beginning with this number of the Journal, there will be published each month two pages of information, suggestions, and advice regarding the handling of tuberculosis by the physician in private practice. This material will be published under the title "Tuberculosis Abstracts." It is prepared by the National Tuberculosis Association, and is furnished to the Journal by the Pennsylvania Tuberculosis Society. It is carefully passed upon by some of the leading specialists in tuberculosis, and may be considered authoritative. As will no doubt be obvious to the reader of the "Abstracts" in this issue, the hope is to assist the busy doctor to keep abreast of developments in the diagnosis, treatment, and management of tuberculosis.

The Pennsylvania Tuberculosis Society, with headquarters at 311 South Juniper Street, Philadelphia, will be glad to respond to requests from physicians for literature to be placed in the hands of patients.

JOTS AND TITTLES

Research and Discovery

Dr. Charles H. Mayo has announced that active work in a "new field of research in chemistry and physics" will be begun shortly by the Mayo Clinic, of Rochester, Minn. "The future of medical science lies in the field of physics and chemistry, to get knowledge of the building up of matter as well as breaking down," said Dr. Mayo. "No one can estimate how far this new field of work may go. So far it has not been applied to disease, but is confined to experimental animal research in order that no harm may be done to the human until more knowledge is had of the action of these varied types of electric wave lengths."

According to Prof. Edwin C. Kemble, of Harvard University, within three years the architecture of molecules will be so well understood that the chemist will be able to calculate the results of chemical combinations accurately. Study of the molecule is being made by photographs of the band spectra of the light emitted by individual molecules.

Enormously complicated calculations have convinced Dr. R. A. Millikan of the California Institute of Technology that "there are no possible transformations capable of yielding rays of the enormous penetrating power" of the cosmic rays "except those corresponding to the building up, or creation, of the abundant elements like helium, oxygen, silicon, and iron out of hydrogen or, in the case of the last two elements, out of helium." Dr. Millikan recently stated before the National Academy of Sciences that the cosmic rays consist of "a definite and distinct region of spectral frequencies, or oscillations, 100 times more rapid than those produced by the most powerful subatomic changes heretofore known, namely, those accompanying radioactive changes." His experiments show that the cosmic rays are not produced as are x-rays, at least 150,000,000 volts, 3,000 times as powerful as the field existing in x-ray tubes, being required to produce frequencies similar to the cosmic rays.

Dr. Arno Viehoever, of the Philadelphia College of Pharmacy and Science, has discovered that the daphnia, or water flea, is a valuable subject for cardiac experiments. "Its adaptability to immersion makes it capable of living in a liquid solution controlled by the investigator," says the scientist, "and its shell is so thin that its heart action can be readily checked with a microscope. The delicacy of the organism of the water flea and the fact that its motions can be governed without hampering them make it possible to study every heart beat under the most favorable circumstances."

Professor Steinach, of rejuvenation fame, has reported to the Congress of German Surgeons that he has found a definite coördination between the hormones of the pituitary and germinal glands. Stimulation of either produced a corresponding action in the other. So far, his work has been confined to rats, but he states that twelve injections of pituitary extract have transformed senile rats into youthful creatures.

Hermann Sternberg, writing in *Weiner klinische Wochenschrift,* recommends in certain types of the common cold, more particularly in cases of nervous or vasomotor coryza, the early administration of one drop of a ten-per-cent tincture of iodin solution (no more), or three to five drops of an iodin sodium-iodid solution, in a full glass of water. If this does not abort the cold, a second dose may be taken on the following day. At later stages of a cold, subcutaneous injections of a five-per-cent sodium-iodid solution are recommended.

If the first injection does not produce a striking result, six iodin injections may be given subcutaneously at intervals of one to four days. In the few refractory cases, Sternberg has secured good results from administration of a knife-tip full or more of dry peptone with a swallow of water or in a wafer one-half hour before meals. After two weeks this may be supplemented by iodin injections.

Cruisers and Medical Schools

Admiral Beuret has stated that the proposed new battle cruisers under discussion will cost $17,000,000 apiece—a tidy sum. It happens to be exactly the endowment of one of our medical schools. Every time we build a cruiser we sacrifice a medical school. There are eighty-odd medical schools, of which not exceeding two or three are as adequately endowed, and even they lack some important branches of medical science. The cost of building cruisers would give us twenty-five medical schools. Long before the present naval program involving $3,000,000,000 is completed, we might have in its place a series of medical schools spanning the country, doing an infinitely important and beneficient service for science and humanity, according to Abraham Flexner in the *New York World*.

A New Cure for Pertussis

The *Medical Journal and Record* relates that "a recent issue of the *Lancet* tells of an interesting instance of an unexpected cure. A Charlottenburg aëroplane owner had occasion to take his two young daughters on a short trip by air while they were suffering from whooping cough. After the journey the children's paroxysms of coughing were so alleviated that the family physician advised more air journeys. Within a short time the girls were entirely cured, while the baby who did not go with them ran the whole course of usual whooping cough. The children remained in the air about an hour each time and reached altitudes as high as ten thousand feet." This reminds us of the case of Colonel Scott, of Gettysburg, who found after an aëroplane flight, that his hearing had improved so greatly he was able to hear ordinary conversation. Who knows but this will become a favorite prescription of the doctor in the near future!

The Cost of Liver

Since the symposium on pernicious anemia which we published last winter, we have been greatly interested in the subject of liver. Hence, the letter by Dr. Joseph H. Barach in the *Pittsburgh Medical Bulletin* has caught our attention. The Doctor tells us that the price of liver has risen within very recent times from forty-five cents a pound to whatever the butcher can get, and that it may soon be a dollar a pound. This he blames on indiscriminate prescribing of liver in cases in which its value is unproved and on the eating of liver, unprescribed, in order to prevent pernicious anemia. He calls on his brother physicians to request their friends and patients to boycott this delicious culinary product so that the price may return to normal and poor patients desperately in need of liver may secure it at reasonable cost. At a restaurant we recently visited we noticed the price of liver and bacon on the menu was listed at $1.00, whereas other meats did not exceed 75 cents. Perhaps the law of supply and demand which has raised the price will operate to reduce it once again because the average diner can ill afford such extravagance.

MEDICOLEGAL AND LEGISLATIVE NOTES

A Legislative Number.—This issue of the Journal may well be termed a legislative number, for scattered throughout, readers will find articles dealing on this perenially interesting topic, doubly vital this year. Turn to the report of the last meeting of the Tristate Medical Conference, and read about the medical expert and his sins. Then note the editor's opinion on the subject, and look up the abstract of papers recently read before the Philadelphia County Medical Society, castigating the professional expert and offering remedies for his transgressions. See what Dr. Alfred Gordon has to suggest in his letter also published herein. You will find that the "doctors disagree" as to the best manner of handling this unfortunate situation.

Personally, we feel that one of the discussors hit the nail on the head when he said that, to eliminate the dishonest expert, it is necessary to get at the root of the matter; that so long as insanity is considered an excuse for murder, so long shall we have to contend with the medical expert in murder trials. When we become sufficiently civilized to substitute for punishment the safety of society and the reformation of the criminal when possible; when we become sufficiently civilized to abandon capital punishment and substitute segregation for so long as needed to assure the safety of society—then the scandalous conduct of the medical expert will cease to trouble. Civil trials are a different thing—but perhaps some one else will be clever enough to reason out the fundamental difficulty and write us about it.....

Lest we forget the fifty-million dollar bond issue to be voted on in November, so that the wards of the State may have proper protection and treatment, be sure to read the editorial on "The Feebleminded."

The "heavy stuff" we keep to the last: Don't miss the editorial on "Obfuscating Legislation." That's a big word, and to save you the trouble of looking it up, we'll say that it is the opposite of "clarifying." In other words, the quacks obfuscate, and the medical profession clarifies—when it is able—the legislative situation. In the Officers' Department, the reports of the Committee on Public Health Legislation give facts you will want to know. Among other things, they show that a lot of our members are riding the caboose to defeat next November. Wake up, brothers and man the brakes! Get busy on those Voters' Educational Petitions! There are nearly eight thousand members of this Society. Every one of them ought to be good for a minimum of twenty names, which would total in the neighborhood of 150,000, as against the 9,430 that have already been secured. Note the good example of Allegheny and Dauphin Counties, and then go out and see what you can do. And don't quit till every vote has been cast and the polls have been closed next November.

Saving the cream till the last—look what Prexy has dug up for us! You'll find it in the Officers' Department. In addition, you'll find—that the "Educational Contrast" will make good campaign material.

An Antemortem Statement.—Being a bit late this month with our "copy," this is written shortly after we cast our vote for better or for worse. We wish we could hold up the Journal to give you a complete analysis of the post-primary situation. Unfortunately, time, tide, and printing presses wait for no mere department editor; so we have gathered up and are

putting into this nosegay some of the ante-primary blossoms picked from the political garden.

Leaving our polling place, we ran into a candidate for the State Senate. We said, "Of course you are coming along with us this year in our fight to maintain high qualifications for license to practice the healing art." He said, "I don't know much about it, but I understand your are going after the chiropractors," with a chuckle. We replied "We are not going after the chiropractors as such, but after all improperly equipped practitioners. If you wish, we shall be delighted to call on you and present the facts in full." *We didn't get the invitation!*

Most of the county society bulletins have carried such information on the legislative situation as have come their way; but the heavy work has been done by the *Pittsburgh Medical Bulletin.* They have had a big fight out that way, and some of the State and County Society officers have been clipping short their beauty sleep to benefit the cause.

In the effort to defeat Miss Helen Grimes, sponsor of the 1927 chiropractic bill, who is a candidate to succeed herself as a Representative, 250 physicians of the Twelfth Legislative District in Allegheny County spent the day at the polls, electioneering as a body. Their campaign has, in fact, been going on for several months. According to the *Pennsylvania Republican,* of Pittsburgh, "A number of House members who voted for the measure, viewing the attitude of an aroused organization of physicians, would like to undo their action. The best they can do, however, is to explain that they did not seriously consider the matter, and pledge themselves to vote against a similar bill in the future..... Unquestionably the essentials in the Twelfth District fight will later engage legislators throughout the State, for thousands of physicians who never before took an outstanding active part in elections are interviewing candidates, and exerting an influence. It seems that such a situation should not have developed. Mass opinion as represented by ten thousand physicians should, by its very weight and the type of influence, settle a controversy the opposing side of which is represented by less than a thousand persons of admittedly inferior educational equipment. But it has, for the first time, caused the physicians as a body to stretch their political muscles preparatory to seeing just how much they can lift, for once. There is something in this for politicians, from district workers to State leaders, to consider with gravity."

As a part of the campaign, Dr. Thomas Greig, chairman of the Legislative Committee of the Allegheny County Medical Society, recently spoke over station KDKA, charging that 700 chiropractors are practicing illegally in Pennsylvania, although there is a law whereby they may obtain license. In this connection, we might remind the profession that there are other radio stations in Pennsylvania.....and other chairmen of legislative committees.....

At the recent Pittsburgh session of the Pennsylvania Hospital Association, the Public Health Legislation Committee of the Allegheny County Medical Society maintained a booth in connection with the commercial and scientific exhibit from which the committee distributed information and literature on the subjects related to the Medical Practice Act of 1911, its supplements and amendments. The booth was again established at the Hotel Schenley in connection with the annual meeting and dinner of the County Society. Here, again, is a suggestion for chairmen of legislative committees. There will be a multitude of district meetings and outing meetings and annual meetings this spring and summer of medical and allied organizations, not to mention such affairs as county fairs, etc. These will all provide opportunities for "selling" the idea of maintaining high qualifications.

The following resolution was unanimously adopted March 30, 1928, by a large group of law-abiding, legally licensed members of the nursing profession:

"Resolved, That District Association No. 6 of the Graduate Nurses' Association of Pennsylvania, comprising more than two thousand voters of the Commonwealth of Pennsylvania, go on record as approving in principle and practice the existing laws and standards for examination and licensure of candidates for the privilege of legally practicing any form of the healing art, and will support only such candidates for the Legislature as will vote against such proposed laws as will give special licensing privileges on a substandard basis."

An Active Commissioner.—Mrs. Blanche R. Young, an unlicensed chiropractor, chairman of the Board of Governors of the Pennsylvania Chiropractors' Association, and a member of the Freeman Commission, appointed by Governor Fisher to *study* the laws relating to the healing arts, spoke at a pre-primary meeting held in the William Penn Hotel, Pittsburgh, "under the auspices of the Helen Grimes Campaign Committee and the Pennsylvania Chiropractors' Association."

The formal invitations issued broadcast to attend this meeting stated that while it was "the duty of the Freeman Commission to frame for the 1929 Legislature a bill or bills to control persons engaged or intending to engage in the practice of the Healing Arts," *there is no bill in preparation.* Commissioner Young, who spoke after the dean of Pittsburgh's spurious chiropractic college had concluded his usual straddling statement, seemed very much incensed because the various State Medical Societies and the State Hospital Association were "making it a political issue."

We are confident that the studious members of the Freeman Commission will be pleased over the very effort that so much displeases Commissioner Young; namely, the widespread publicity given by our Joint Conference Committee to educational features involved in the proper training of candidates for license to practice any form of the healing arts in Pennsylvania.

Of course, Governor Young is disappointed because "the public has not resented any group making a political issue of *this high-minded welfare measure.*" "We are not afraid to place facts with the Commission" concluded Mrs. Young's remarks to the audience of thirty-six, one-fourth of whom were interested hospital and social-agency workers.

Commissioner Young was particularly incensed because our educational campaign to the public features the need for support of Pennsylvania's splendid Practice Act of 1911, and contrasts it with the iconoclastic features of Governor Young's brief presented to the Freeman Commission in Philadelphia, November 17, 1927.

The brief opens as follows: "The Pennsylvania Chiropractors' Association respectfully recommends that the *official report* of your Commission shall *contain a draft of laws* or amendments to laws so as to include and provide for the following....." (Contrast with italicized words in second paragraph.)

Note the destructive effect on the State Department of Education of this "recommendation": "Fourth: The State Board of Medical Education and Licensure should

be abolished and *the laws* providing for same should be repealed."

Visualize the attack on the very foundations of professional licensure involved in the following: "First: A separate Board of Examiners and of Licensure for persons practicing the drugless profession of chiropractic. The said law shall contain the further provisions:" (a) (b) (c) (d) (e) and (f)—lack of space will not permit printing them in full. They are a matter of record with the Commission of which Mrs. Young is a member, and provide for the following:

Considering as qualified for license chiropractors in practice one year, if in possession of certificates from *chiropractic schools* approved by a *chiropractic board of examiners.*

Conferring the right to *treat* quarantinable diseases and to certify death certificates, the latter "because once in a great while the patient of a chiropractor may die."

Go over that again, dear reader—one thousand chiropractors disbelieving and untrained in the laboratory science of bacteriology praying the 1929 Pennsylvania Legislature, through the Freeman Commission, to license them automatically to treat diphtheria, scarlet fever, and cerebrospinal fever, and finally, to legalize their signing of death certificates.

The crowning impertinence of the chiropractors' brief to the Commission is their request to have laws or amendments to laws to provide for their treating patients in State-aided hospitals. Is Idaho or Nevada the State of which we write? No; we write of Pennsylvania, whose Medical Practice Act, controlling under the Department of Education the schools and hospitals of the State, has been and is the model law for raising the educational and licensing standards of other states of the Union. This veiled threat against financial support of nearly 150 of Pennsylvania's best general hospitals has but served to enlist their organized determination to remain class-A hospitals worthy of giving only the best available treatment and training alike to the patients and the student nurses and interns entrusted to them.

Naturally, Miss Helen Grimes, who spoke at this meeting held in behalf of her candidacy for return to the Legislature, voiced her resentment against "the *secret campaign* conducted against her by the medical society." Secret, indeed! Alas! What a reflection on our best efforts publicly to enlighten and protect the constituency of Miss Grimes and certain other misguided candidates for renomination! After telling her audience that "the death rate has not been decreased by the medical profession; that it is a disgrace; that it is a crime that a man should drop over dead from heart disease; that there should be no deaths except from old age," the Honorable Helen concluded with an impassioned appeal that "the chiropractor may have the only thing he asks for; namely, to build up the body so that no disease can invade it."

What a commentary was portrayed in the conduct of the political meeting above described! What destructive social elements were symbolized in the triumvirate speaking from the one platform! First, the chiropractic college seeking to validate its promises of ultimate State recognition of the worthless diplomas it issues to the only financial contributors to the school's existence—its students. Second, the product of the first seeking at one and the same time to legalize her unlawful practice and betray a sacred public trust. And, finally, a legislator giving public demonstration of an alliance based on acquiescence to the special legislative demands of a small but noisy minority.

May the public be the only beneficiaries of any health legislation, and may our own, the heretofore quiet majority, realize its bounden duty; namely, to uphold Pennsylvania's present Practice Act of 1911, which requires of all candidates for license to practice chiropractic or medicine or naturopathy or what not the same educational training in all fundamental studies except the various methods of treating sickness.

Quackery Elsewhere.—It is of interest to note that, according to the *Medical Bulletin* of the Lycoming County Medical Society, that chiropractors of Virginia, adopting the tactics of the Pennsylvania Chiropractors' Association in refusing to meet state requirements, have again met defeat. After a three-hour public hearing, the General Laws Committee of the House of Representatives of Virginia voted within five minutes, January 30, to pass by indefinitely the bill which would establish in Virginia a state board of chiropractic examiners. The committee voted 10 to 2 that it should not pass. Dr. H. U. Stephenson, of the State Board of Medical Examiners, said that no chiropractor had appeared before the State Board for examination since Virginia recognized chiropractic in 1913.

From the *Medical Journal and Record* we glean the information that more than five thousand Germans are killed annually and the health of many more is permanently injured by quackery and criminal malpractice, according to a recent report of the German Health Officer. The number of quacks practicing throughout the country is estimated as at least fifty thousand. Most of them have only grammar-school education and no medical education or experience. They usually pose as homeopaths, naturopaths, or biochemists, and most of them do a land-office business.

From another contemporary we learn that a very energetic effort must be made to prevent the New England Antivivisection Society from securing a law, applicable to the District of Columbia, that will prevent animal experimentation. The idea is to secure a Federal law from Congress that will apply to the District but that would act as an entering wedge for state legislation of a similar character. Every physician should make it a point to acquaint his congressmen and State senators concerning the dangers of such legislation, and its effect in retarding medical progress.

Health Legislation in New York State.—The Legislature of New York has adjourned, and herewith is a statement of the fate of the bills of interest to the medical profession introduced during the session. The following bills died in committee: Antivivisection; Chiropractic; Workmen's Compensation, adding to list of occupational diseases; Osteopathic; compulsory health insurance; permitting general hospitals to detain a person an extra thirty days for examination in sanity; requiring approval of water-purification plants by Commissioner of Health; licensing institutions for drug addicts; Workmen's Compensation, permitting choice of surgeon; changing the classification of violation of drug act from misdemeanor to felony; examination of certain persons accused of crime by the Division of Mental Hygiene; appointment of two assistant State medical inspectors for part-time schools; time within which malpractice action must be begun; providing state aid to counties for construction of general hospitals; Workmen's Compensation, requiring physician to report within thirty days after the first treatment; Workmen's Compensation, requiring claim to be filed within two years instead of one; Workmen's Compensation, fixing permanent or temporary partial disability

compensation at $25 a week instead of $20; Workmen's Compensation, providing any disability not to exceed $25 a week compensation; creating a committee to investigate the prevalence of drug addicts; relative to ownership and maintenance of a pharmacy or drug store; birth control; action to recover damages for malpractice to be commenced within one year instead of two; limiting use of the word "doctor"; providing for regulation of use of x-ray machines; Workmen's Compensation, relative to permanent partial disability; Workmen's Compensation, making compensable every disease vouched for by medical testimony; forbidding autopsies; establishing a bureau of psychiatric instruction; Workmen's Compensation, providing that statements of a deceased employee, if made to attending physician and reduced to writing by such physician, may be received in evidence; cancer clinics; Workmen's Compensation, providing that a person sustaining an injury not arising out of or in the course of employment shall not be considered an employee or entitled to compensation; providing for a State medical advisory committee; providing for the enumeration of persons under treatment for cancer; making it a misdemeanor for a person other than a physician or surgeon to perform the operation of face lifting; giving an infant born crippled or injured the right of action for injury as though injury were received after birth; and providing that no recipe or prescription may be prepared or dispensed by others than a duly licensed pharmacist or druggist.

The following bills were passed, and rest with the Governor: Making a town charge reasonable fees of physician for examining persons charged with intoxication in operating a motor vehicle or otherwise at time of commission of crime; increasing penalty for unlawful practice of pharmacology; relative to supervision of professions by providing that in case of illegal registration or license or in case of excusable error, satisfactory proof may be submitted to Regents that all requirements prescribed by law were possessed at time of registration of license, and authorizing issue thereof; Workmen's Compensation, relative to occupational diseases; Workmen's Compensation, making it a misdemeanor for a physician or surgeon employed by a State department to solicit or treat any claimant or operate any clinic or recommend that claimant be treated by any physician; relative to care and treatment of physically handicapped children.

The following has become part of the Laws of 1928: Prohibiting sale of eyeglasses by peddlers.

It is of interest to note the types of vicious bills that are introduced in various states. Naturally, each year the antivaccinationists and antivivisectionists usually have one or more bills, likewise the cults and Workmen's Compensation. Every state should have a law limiting the time in which malpractice suits shall be brought. In Pennsylvania it is two years. It is fortunate that peddling of eye glasses is prohibited. A bill providing for the regulation of the use of x-ray machines died in committee because no reference was made to the dentist, hence it was opposed by the dentists. Had the bill properly taken care of the dentist, no doubt it would have been adopted. If adopted as presented, dentists would not be able to use x-ray machines. This is an example of a bill being presented for a most laudable purpose, but defeated because it was improperly drafted.

It is of intense interest to read the reference to a bill giving infants born crippled or injured a right of action for injury as though injury were received after birth. There is much food for thought here, and it opens up many avenues for sound debate.

The bill forbidding autopsies, of course, had no reason whatever for its introduction. It is beyond belief that certain bills are introduced at sessions of the state legislatures, and it shows why every state medical society must be *on guard*. There is one feature that too frequently is overlooked; that is, the medical profession should more and more interest the laity and secure their active opposition to vicious health legislation. Our argument is that we oppose such legislation for the best interests of the people, yet the public is poorly if at all represented at hearings of bills, and it could be said with truthfulness is but slightly interested. It would seem advisable that state medical societies should bear in mind the necessity of interesting the public, when possible, in filing opposition to untoward legislation.

Blood Poisoning from Lancing Pimple in Forearm Held an Accident.—Referring to the fact that there is some conflict in the decisions as to what is meant by "accidental means" within the meaning of an accident insurance policy, the Missouri Court of Appeals says (Cameron v. Massachusetts Protective Association, 275 S. W. 988) that the rule is now established in Missouri that: "Where an unusual or unexpected result occurs by reason of the doing by insured of an intentional act, where no mischance, slip, or mishap occurs in doing the act itself, the ensuing injury or death is not caused through accidental means; that it must appear that the means used was accidental, and it is not enough that the result may be unusual, unexpected, or unforseen." Caldwell v. Travelers' Insurance Company, 305 Mo. 619. The action was on a policy on the life of an insured who had apparently lanced a pimple on his forearm resulting in blood poisoning and who subsequently died of pneumonia.....

It was held that if the insured, in lancing or cutting the pimple on his arm, unintentionally used an instrument having thereon an anaërobic germ or germs, and that such germs were inserted into his system, the occurrence was an accident within the meaning of the policy. He intended to cut himself, but the insertion of the germs into his system was held unintentional. There was testimony from which the jury might find that the pimple had been punctured by some instrument having upon it germs which resulted in blood poisoning. The evidence showed that before the cutting of the pimple the insured was a man forty years of age, strong physically, and in good health. There was nothing in the evidence to suggest that he would intentionally do such an unnatural thing as to insert deadly germs into his system, but, on the other hand, the presumption was to the contrary. There was testimony tending to show that the germs he inserted into his system caused the pneumonia from which he died. Under these circumstances it was held that plaintiff was entitled to recover.

It was held that a provision of the policy "that this policy does not cover death due to disease, whether acquired accidentally, or otherwise" meant that the insurer should not be liable for death due to disease acquired accidentally save through "bodily injuries, effected directly and independently of all other causes by accidental means, and due solely to external, violent and involuntary causes, and leaving visible marks upon the body," and the facts of the case did not bring it within the exception.—*Medical Journal and Record*, February 1, 1928.

PUBLIC HEALTH

The Work of the Pennsylvania State Department of Health for the year 1927 sets several new records. Through constant reiteration of established facts and principles the Department is able to report a satisfactory rise in the attention of the public to rules governing personal and community health. Public-health practice can solve to some extent general sanitary problems, but in the last analysis, morbidity and mortality are to a large extent dependent upon individual effort and interest. Much of the work accomplished in 1927 was based upon the intelligent coöperation of communities. It is a significant sign of the times, and speaks well for the future.

Bureau of Vital Statistics. This was the healthiest year in the history of the Commonwealth. There was a decline in measles, whooping cough, typhoid fever, smallpox, malaria, and anthrax; but slight increases in diphtheria, scarlet fever, chickenpox, mumps, German measles, tuberculosis and pneumonia. The reorganization of the field force of local registrars and districts was an accomplishment of some magnitude. An extensive service is rendered in the certified copy division. This is the largest state bureau in the United States.

Bureau of Communicable Diseases. Communicable disease, general rural-sanitation, and rural restaurant-hygiene work is carried on by a corps of 69 full-time salaried health officers in 37 counties, 29 public-health nurses in 18 counties, and 180 part-time officers in the remainder of the State, working under the direct supervision of the Bureau through its 64 county medical directors. This is probably the largest organization of its kind in the United States. Practically all the full-time health officers have been given a course of training at the Army Medical School in Carlisle. Selected portions of the State will be covered with full-time, trained officers as fast as circumstances will permit.

The value of compulsory vaccination is shown by the fact that but 17 cases of smallpox were reported in 1927—44% of the number reported in 1926. Not a single case originated within the State and no deaths resulted. Typhoid fever was reduced to 1,474 cases, no large outbreaks occurred, but only two counties were entirely free from it. Beginning in July, up to which time 12 cases had been reported, a rather alarming incidence of anterior poliomyelitis made its appearance. A system of telegraphic reports was instituted, and every effort was made to curtail the spread of the disease. No change in the normal course was noted, however, and it rapidly faded out with the approach of cold weather. Malta fever and tularemia were placed on the list of reportable diseases November 16th, and at the close of the year 6 cases of undulant fever were reported and 2 cases of tularemia.

Bureau of Child Health. Toxin-antitoxin for the immunization of 220,811 children was distributed during the year. Conferences held with school directors in different districts have resulted in starting consolidation projects to eliminate insanitary conditions presented by many one-room schools, and in remodeling and modernizing many school buildings of the older type. There are 130 dental hygienists doing public work in the State.

Bureau of Nursing. A new feature was the extension clinic service which was carried on in nine counties, mostly remote from the established tuberculosis clinics of the Department. The nurses did immediate follow-up work in all cases examined. School medical examinations in fourth-class school districts have been followed up by Department nurses, and visiting was done in connection with health-officer work when communicable diseases occured. Three cancer clinics were opened in Reading, Johnstown, and Allentown. Diphtheria immunization has been continued. Supervision has been maintained over health and sanitary conditions in eviction camps of strikers in the soft-coal regions.

Bureau of Engineering. Missionary work in the interest of better milk was carried on with councils, boards of health, civic associations, and service groups. Recreational camps numbering 200 were inspected and 500 public camps, mainly of the tourist type, were inspected and reinspected to insure their conformance to regulations.

Sanitary Water Board. Hundreds of miles of streams were examined for designation as class-A. Scientific study with two motorized laboratories was made of two large rivers. Missionary work resulted in approximately 20 communities beginning construction of sewerage systems and sewage-treatment works. Scientific investigation of waste waters from tanneries, pulp and paper mills, and laundries was continued. Stream-conservation agreements were in successful operation at the end of the year with all states bordering upon Pennsylvania.

Bureau of Drug Control. During 1927 inspections were made as follows: druggists 1,192, dentists 31, physicians 726, investigations 490, arrests 45, addicts interviewed 198, addicts sent to institutions 6. The Bureau is particularly interested in the apprehension of peddlers, and during the year a large number were arrested. Many addicts applied for treatment, but due to limited hospital facilities, only a few could be accommodated. The addicts reported for the period number 1,223, including cases of cancer, incurable disease, and postoperative conditions. About 60 per cent of those registered with the Bureau are cancer patients.

Bureau of Inspection. Counties were inspected for the following: vital-statistics violations; health certificates for employees of restaurants, hotels, and eating stands; school medical inspection; arrests of fruit dealers for violation of law; chest clinics; school and camp water inspection; reporting of communicable diseases; investigation of physicians who failed to report contagious and communicable diseases. The following prosecutions were conducted: in Delaware and Lancaster Counties for failure to report contagious diseases; in Wyoming County, prosecution of an undertaker for burial of bodies without burial permits; in Montgomery County, for breaking quarantine; in Bucks County, for the Sanitary Water Board; in Monroe County, for not reporting births. During the year, 1,852 unreported births were collected.

The Sanatoria. Three institutions were run at full capacity, with a waiting list reaching as high as 1,100. During the year 3,293 patients were admitted, 768 to Hamburg, 1,318 to Mont Alto, and 1,207 to Cresson.

Laboratories. The total specimens examined numbered 92,353, covering a wide field.

Public Health Education. Weekly health talks were broadcast throughout the newspapers of the Commonwealth. Items were supplied to the *Journal A. M. A.* and the Atlantic Medical Journal, and other publications were regularly released, as also were facts of interest to the newspapers. Moving pictures circulated by the Bureau reached a total of 110. *Pennsylvania's Health* was issued six times to a circulation of 26,000.

Clinics. A number of the chest clinics have been closed. In lieu thereof, diagnostic clinics are being held at strategic points throughout the State from time to time. Examinations of suspected cases of tuberculosis are made by the State personnel, and the patients are then referred to their local physicians for treatment unless hospitalization is required. There are 54 G.-U. clinics in the State.—Abstracted from *Pennsylvania's Health.*

Reports from the United States Public Health Service.—Analysis of the time lost from work by employees of a large electric-light and power company showed that more than half of the absences on account of illness were caused by diseases of the respiratory system. Records studied included all absences lasting one day or longer during a ten-year period. Records of 35 sick-benefit associations with a combined membership of nearly 100,000, show that respiratory diseases caused 47 per cent of the illnesses for which benefits were paid from 1921 to 1926. This source of information covers only the more serious sicknesses, as benefits are paid only when the beneficiary is unable to work for eight days or longer. The worst offender, from the standpoint of time lost, is the common cold, which, according to the record of the company mentioned, caused 70 per cent of the absences resulting from diseases of the respiratory system. Next in importance is influenza or grip. In the five years ending 1924, grip disabled members of sick-benefit associations more than six times as often as all other epidemic and infectious diseases put together. Third is the group designated as diseases of the pharynx and tonsils. Some time in February the peak of the respiratory diseases is reached, while the smallest number occurs in July. The rate of respiratory sickness is different among the employees of various industrial establishments. Over a three-year period in the establishment showing the highest rate of respiratory illness there were five times as many cases causing absence from work for more than one week as occurred among employees of the establishment which showed the lowest rate. Wide differences in the death and morbidity rates from respiratory diseases are found in different industrial groups, communities, and cities. Careful study of the cause of these differences would doubtless yield information of value in prevention and control. The Service is undertaking several studies in this field, in an effort to determine the influence of such factors as abrupt changes in temperature, smoke and other causes of atmospheric pollution, overcrowding, exposure to large quantities of different dusts, etc.

The winter increase in respiratory diseases is due to several factors: (1) Our manner of living in the winter, which allows more intimate contact and greater opportunity for dissemination of infection. (2) Changes in the weather and exposure to cold and dampness, which may play a definite part. (3) The poor ventilation of home, factory, and office. The evil effects of poor ventilation are not due to chemical changes in the atmosphere, but to overheating of the body, which, if followed by chilling, increases the possibility of taking cold. The most healthful room temperature is between 68° and 70°. There should be a slight amount of air motion in all rooms, such as is produced by a small window opening. Air movement is beneficial. It stimulates the nerves in the skin and invigorates the body.

To determine whether or not a health hazard from carbon monoxid exists in city streets, 250 samples of air from 14 large cities were analyzed. The average of 141 tests made at peak hours of traffic showed a contamination of 0.8 part of carbon monoxid per 10,000 parts of air. Only 24 per cent of the street samples had more than one part per 10,000, and in only one location, a covered passageway, were there as much as 2 parts per 10,000. Samples taken inside of auto busses yielded even lower concentrations. These figures show that a health hazard from this source does not exist in our city streets. The only individual who may possibly be affected is the traffic officer, whose hazard may be minimized by diminishing the duration of exposure at the most congested traffic stations. Real danger is found from concentration of carbon monoxid in garages and repair shops, and the discharge of an automobile exhaust into a roofed enclosure should be regarded as a hazardous act.

A report recently submitted to Congress on the National Leper Home at Carville, La., shows that during the past year 56 lepers were admitted, 12 readmitted, and 2 patients discharged on parole as arrested cases, 17 deaths occurred, and 278 patients are under treatment at present. The patients come from twenty states and three of the insular possessions of the United States, as well as from twenty-four foreign countries. Louisiana, Florida, and Texas lead the states furnishing patients to this colony. Recognizing the great importance of occupation to prevent morbid introspection, paid employment is offered patients physically and mentally fit to work at light tasks. The assignments range in variety from the more simple duties of housekeeping and bedside care of fellow patients to the more exacting work as assistants in the general laboratory, physiotherapy department, dental laboratory, and operating rooms. A small golf course has been started on the patients' campus, and a concrete tennis court has also been constructed. A small farm is maintained, and the dairy herd produced more than 47,000 gallons of milk during the past year. Practically all the patients are receiving chaulmoogra oil by intramuscular injections or by mouth in doses ranging from three drops to three hundred drops daily.

During the first twelve weeks of 1928, more cases of meningococcus meningitis were reported in the United States than were reported during the corresponding period of 1926 or 1927. However, the total number of cases is small in proportion to the population, and some of the increase may be accounted for by better reporting. The figures for 42 states, population about 105,000,000, are as follows; 1926, 562 cases; 1927, 698 cases; 1928, 1,179 cases. The highest prevalence is reported from the Mountain States and the lowest case rates are in the South Atlantic States.

Bulletin 150, entitled "Key-Catalogue of Insects of Importance in Public Health," has recently been issued. Numerous insects are arranged systematically, according to their more or less generally adopted classification with notation as to their public-health importance and their geographic distribution. In the introduction, the different genera of insects are cross-referenced to a number of subjects. The publication is of special interest to public-health officers, physicians, zoölogists, lawyers, and students of medicine and zoölogy, and forms a condensed summary of the entire field of public-health entomology.

Organization Activities.—The annual meeting of the American Society for the Control of Cancer, held March 3d, was the largest which has thus far taken place. Total attendance was 105, representing fifteen states. There were four directors of cancer institutes, five state or municipal health officers, and twelve state chairmen. Dr. J. M. Wainwright, Pennsylvania's State chairman addressed the session on "What the Medical

Profession Should do About Cancer." He suggested as the chief instruments for improving upon the treatment now available for cancer patients the following: (1) state cancer institutes, (2) tumor clinics in all hospitals, (3) postgraduate instruction for physicians, and (4) better cancer literature and easier access to it.

Over five hundred psychiatrists, psychologists, social workers, visiting teachers, and others engaged in community and institutional mental-hygiene activities in various parts of the country came together in New York City on February 24th and 25th to attend the fifth annual meeting of the American Orthopsychiatric Association. The Association announces as its purpose "the centralizing of the technics, objectives, and aspirations of physicians, psychologists, and social workers whose primary interests lie in problems of human behavior, particularly conduct disorders of the antisocial type."

The Sixth Conference of the International Union Against Tuberculosis will be held in Rome, September 24 to 29, 1928, under the auspices of the National Italian Fascist Federation.

The International Conference on Social Work will be held in Paris on July 9th to 14th. Various phases of social work will be discussed, and the program will also include reports on health activities.

The fourth annual conference of Child Health Education Directors of tuberculosis associations was held at Alumnæ House, Vassar College, Poughkeepsie, N. Y., April 9th to 12th. The topics discussed were Informational Hygiene, Student-Health Service, Applied Hygiene, and Administrative Hygiene.

The *Nation's Health*, which has been acquired by the American Public Health Association from the Modern Hospital Publishing Company of Chicago, was merged in January, 1928, with the *American Journal of Public Health*. The name on the cover and title page is the *American Journal of Public Health and the Nation's Health*.

The April *Bulletin of the Pennsylvania Tuberculosis Society* presents the following Christmas Seal figures for recent years in Pennsylvania: 1917—$125,927.41, 1919—$344,088.11, 1920—$368,358.63, 1921—$348,415.67, 1922—$383,519.78, 1923—$435,244.55, 1924—$456,331.98, 1925—$506,178.17, 1926—$556,723.44, 1927 (incomplete) —$577,000.00.

INDUSTRIAL MEDICINE

Industry Works to Eliminate Hazards of Mechanical Paint Sprayers.—The use of mechanical sprayers in the application of paint to large and small articles and to the interior and exterior of buildings has increased with great rapidity in the last few years, and much apprehension has been created in the minds of workers and employers alike as to the hazards connected with the process. In the early study tests, it was found that without ventilation there was a very decided lead hazard and also an increased hazard from the solvents and driers used in the paint. If they were properly constructed, and the ventilating equipment placed so that the spray was not drawn past the operator's face, the process was said to be safe, provided all the precautions used in other kinds of painting, such as strict personal cleanliness, protecting food and street clothing from dust and spray, etc., were followed. From tests with different types of masks it was concluded that it is impossible for workmen to get enough air through a mask which is effective in protecting the wearer from the lead-laden spray.

Quick drying leadless paints, such as lithopone paints, and those with a pyroxylin base are taking the place, however, of the lead paints. The solvents in Duco mixed and ready to use give off inflammable vapors on exposure to the air, but the ignition temperature is higher than that of gasoline, kerosene, or turpentine. When mixed with air in proportions ranging between 2.34 and 13.9 per cent (by volume) these vapors are explosive. They are about three times as heavy as air at the same temperature, and therefore tend to settle to the floor, but these effects may be nullified by relative temperature differences or draughts. The paint cannot be ignited, however, while being sprayed from spray guns operating under normal pressure. There is a distinct hazard in the dust of the pyroxylin finishes if the residue is allowed to collect in the ducts, or the spray booth or room, and if suspended in the air as a dust cloud in proper proportions, it presents the same explosion hazard as other inflammable dusts. As a safeguard against the inhalation of the vapors given off by the solvents in the quick-drying finishes, forcible removal of these vapors by means of adequate exhaust systems is advised, and warning is given that open windows or skylights will not give sufficient ventilation in spray rooms. Such paints, it is said, should never be applied with spray guns in the open, or in a general workroom where other employees or other workers are exposed, as there is liable to be a serious fire hazard as well as a health hazard created. Scrupulous cleanliness of workrooms and booths at all times is considered essential, and in order to prevent unnecessary liberation of solvent vapors as well as to decrease the fire risk, containers and receptacles containing Duco, thinners, primers, and other materials containing volatile solvents should be kept covered or closed.

While attention has been directed chiefly to the hazards from the constituents of the paints used in the spray machines and to the danger of fire, it appears that there is another hazard which is necessary to guard against. An account is given in *California Safety News*, March-June, 1927, of two paint spray pot explosions, both of which resulted in the death of the operator. In one case, heavy paint was being used on the outside of a building, and the operator was warned, if the air brush would not work, to use hand brushes, as the paint pot, which was of cast aluminum, was designed to operate at a pressure not to exceed 50 pounds. The operator, however, wishing to get more pressure, replaced the safety valve with a plug, tightened the bolts on the lid or top, and turned on the pressure from a tank with 100 pounds pressure. The bottom was blown out and the pot struck the man, injuring him so that he died on the way to the hospital. In the other accident, the container was being used with a pressure of approximately 90 points per square inch, and the container itself was so constructed that if it had been properly inspected it would have been condemned.—*Hospital Management* (From *Monthly Labor Review*).

The Bureau of Industrial Standards of Pennsylvania is continuing its safety-education work by providing speakers for safety meetings. Cyril Ainsworth, Director of the Bureau, addressed the plant safety committee of the Viscose Company at its recent annual dinner meeting. John S. Spicer, Chief of the Accident Investigation Section, attended the safety meeting of the Frog, Switch and Manufacturing Company at Carlisle, and the Lebanon Steel Foundry at Lebanon, and talked to the employees on their plant accident records. Dr. Elizabeth B. Bricker, addressed the recent annual meeting of the Pennsylvania Thresherman's Association on

"First Aid." The Bureau will be pleased to arrange for speakers for accident-prevention meetings when requested.

Slight Injuries Most Costly When Infected.—A striking fact brought out by comparing injuries caused by different objects handled in industry is that those which seem slightest in the beginning are the ones which are most costly when infected. The more serious injuries seldom become infected, according to the Bureau of Statistics and Information of the State Industrial Commission, because they usually receive immediate and effective attention.—*Health News.*

Health Conditions in Offices.—Unremitting efforts on the part of safety enthusiasts have succeeded in establishing excellent working conditions in most industrial plants, but untold thousands of office workers are employed under conditions that should be corrected, declares A. A. Mawbray in the February *Hygeia.* Few precautions are taken in the average office. The employer assumes that because there are no dangerous machines, sharp knives, hot metal, or open flames, there is no chance for trouble. Fire hazards are numerous in offices where there are no extinguishers. Ventilation is always a problem. Lighting conditions might be improved in nine out of ten offices. Soap and water ought to be used liberally. Office workers should be impressed with the importance of keeping equipment neat and orderly. The average storeroom is a disgrace and a continual menace because of insufficient protection from fire. The National Safety Council has inaugurated a committee to inspect the departments in its office. Employees are instructed in first aid and what to do in case of fire. They are encouraged to have regular physical examinations and a prize is given to those who take regular daily exercise outdoors.

HOSPITAL ACTIVITIES

The Trustee May be a Publicity Agent.—A trustee can be a great help to his hospital if he keeps in his mind a picture of its future growth, says Ingersoll Bowditch, trustee of Faulkner Hospital, Jamaica Plain, Mass. At every opportunity he should tell his friends and neighbors about this future development so that they can provide for it in their wills, or give a substantial contribution when the need arises. The more the future plans of a hospital are known in the community, the easier it will be to get the means to expand. The people need to be educated to the fact that the hospital is theirs and that it is to their advantage to make it the best that is possible. They also should be made to understand that the trustees are their representatives, and desire to conduct the hospital in a manner that will be for their best interests.—*The Modern Hospital.*

Should General Hospitals Admit Cases of Vaginitis?—Hospitals over the country are beginning to awaken to the fact that in the past an injustice has been done to patients suffering with vaginitis. This is particularly true in the case of children who have innocently contracted this disease. In some of the best institutions in the country an ironclad rule exists that no such cases are to be admitted. In certain states charitable boards insist that the hospital is not fulfilling its duty unless some provision is made for the treatment of children suffering with vaginitis. Since this condition is distinctly infectious, and hence, because of the danger of cross infection to other children, it is necessary to set aside separate rooms and wards for the treatment of these cases. This necessarily incurs added nursing expense. Nevertheless, it does not appear fair for the hospital to consider this outlay as any more extravagant than the added cost incident to the treatment of other types of illness which require some degree of isolation. In every community are to be found children who have unfortunately contracted this infection. Dispensary care has not been found to be altogether satisfactory. Home surroundings are usually inappropriate for the prolonged and careful treatment needed. The danger of infection of other female children in the same family is always present. Hospitals have been known to refuse cases of vaginitis complicated by an acute pulmonary or other grave infection, and by so doing have endangered the life of a child entirely innocent of blame. It cannot be too strongly stated that it is the hospital's duty to arrange for the reception and the satisfactory and scientific treatment of vaginitis in children. A similar infection in adults can perhaps be more adequately treated in the dispensary. Hence, a serious obligation on the part of the hospital to admit adult cases of vaginitis does not always exist.—*The Modern Hospital.*

To Check Mailing Lists.—A recent decision of the post office offers a convenient method for hospitals to correct mailing lists by printing on the envelope containing the material sent out by the hospital, the words, "If forwarded to a new address, notify the sender on form 3547. Postage for notification guaranteed." The postage for the return card containing the information concerning the new address is two cents, but by guaranteeing this amount, the hospital receives from the post office the new address to which the post office has already forwarded the mail. Heretofore, such delivery to a forwarding address was not available on anything except first-class mail. Hospitals engaged in publicity campaigns or in education programs should take advantage of this ruling, because it insures the keeping up of their mailing lists at a very low cost. Moreover, the more accurate the mailing list the better results the hospital publicity material will receive.—*Hospital Management.*

Special Hospital Number of the *Journal A. M. A.*—The issue of the *Journal of the American Medical Association* for March 24th, is a special hospital number, and is a very laudable compilation accomplished by the Council on Medical Education and Hospitals. This report is the result of the special census of hospitals taken within the past few weeks, and the statistics, therefore, are new and not obtainable elsewhere. Much credit is due the hospitals for their prompt replies, which made possible the completion of the census in so short a time.

In addition to information of general interest, there are a number of facts concerning the hospital situation in Pennsylvania. For example, the Pennsylvania section of the data on page 912 shows that there is a total of 228 general hospitals with a capacity of 30,577 beds and having on the average of 21,894 patients, the percentage of occupancy being 71.6 as compared with 66 per cent occupancy for all the general hospitals of the State, which number 42, with a capacity of 28,467 and having 26,939 patients. Going on through the Pennsylvania section, we find similar statistics for each of the other types of hospitals, giving a total of 415 registered hospitals with 69,867 beds and 55,944 patients, plus 3,584 bassinets, or a grand total capacity of 73,451 beds for all the hospitals in the State.

Turning a leaf, we find on page 914 complete statistics for each of the different agencies that control hos-

pitals within the State. Data of interest are found on pages 918 and 919, and especially on page 966, where there is a complete list of all the hospitals in Pennsylvania that are admitted to the *A. M. A. Hospital Register,* giving the name and location of the hospital, the type of service rendered, the capacity, the average number of patients, whether the hospital is approved for the training of interns, for residencies in specialties, and whether approved by the American College of Surgeons. Its status regarding nurse training is also indicated. It is to be noted that 71 hospitals in Pennsylvania are approved for internships by the Council on Medical Education and Hospitals, and that 52 are approved for residencies in specialties. There are 20 hospitals, with a capacity of 365 beds, which were not admitted to the *Register.*

A list of four approved clinical laboratories in the State is printed on page 982.

More than one-third of the hospitals in the United States report physical-therapy departments.

Simplified Sizes for Gauze and Plaster May be Effective Shortly.—Meeting in New York City on February 15th, a group of individual manufacturers, users, and distributors at the invitation of the Division of Simplified Practice, Department of Commerce, decided upon the elimination of many sizes of adhesive plaster and surgical gauze. Based upon the decisions at this meeting, the hospitals, medical field, and the drug trade will be circularized as to their acceptance of the simplified list of sizes of surgical gauze and adhesive plaster. If eighty per cent acquiesce, the simplified list will be accepted. The success of this movement will result in lower prices for these materials which are so extensively used in every hospital. Watch for the questionnaire from the U. S. Department of Commerce concerning this simplification movement, and endeavor to fill it in and return it as quickly as possible, in order that further steps may be taken to eliminate lengths and widths which are seldom used, but which require time and labor on the part of the manufacturers and thus add to the cost.—*Hospital Management.*

CORRESPONDENCE

EXPERT TESTIMONY IN INSANITY

The idea of avoiding double expert testimony in cases in which mental responsibility is involved is not only a matter of expediency but also of necessity. In all such cases the honor and ethics of both professions, medical and legal, are in the limelight, but what is more important, the ends of justice will be better served if a remedy for the present intolerable situation is found. Medical witnesses have always deplored the fact that the methods in use have not been changed. Every right-minded lawyer or doctor is only too anxious to find a way by which the judge and jury could form a final opinion based on a just and fair presentation of the delinquent's mental state by an impartial group of medical experts which should serve both the plaintiff and the defendant. Justice implies impartiality, and this can be accomplished only by a legislative act establishing a commission whose duty would be to examine every criminal and report at the time of the trial. Its report should be final, and no other medical man should be permitted to present a separate report. A commission legally established precludes appointments by Courts or other officials, and thus political and personal preference or influence will be avoided.

Several suggestions have been presented for the selection of such a commission. In my personal opinion, these suggestions lack somewhat in completeness, or else are exposed to external influence which, as mentioned before, might lead to unfairness. The plan I submit is as follows: All neurologists who have been engaged in their special line of work for at least ten years, who are connected with institutions and hospitals, thus showing their continuous and uninterrupted interest in nervous and mental disorders, who are contributing to the literature on this special subject—all such men should be considered competent to express an opinion on the mental responsibility of a delinquent. A list of such men can be obtained without any difficulty.

A suggestion was made recently that only superintendents of insane asylums be eligible for the task in question. There is no doubt that all such men are perfectly competent, but it seems to me that the ends of justice will not be served in their fullest measure should such a limitation be adopted, and for the following reason: In insane asylums are ordinarily incarcerated individuals whose mental irresponsibility is beyond any doubt. There is a very wide field of mentally abnormal individuals whose behavior may be free from immediate danger to the community, who are only potentially insane, who may never reach an institution for the insane, but who are seen and met with in general hospitals and in practice by neurologists. It is the latter that I consider the more competent to judge of the degree of mental responsibility of this host of individuals whose name is legion. The practicing neurologist sees all varieties and subvarieties of mental disorders daily and hourly. He has great opportunities to discriminate between sanity and all shades of mental disturbance. It is therefore suggested that the commission should be composed of all men with the above qualifications, also of superintendents of state institutions, the largest majority of whom are men of high attainments. If such a decision is made, I suggest further that three men of the entire list serve in rotation for a period of six months.

By this method I firmly believe that the courts would be greatly assisted in their work of justice; a great deal of time would be saved; the selection of three men every six months would be a fair distribution of the privilege; the men on the list could be relied upon in a professional way because of their wide experience and on ethical grounds, since in serving the community at large there would be no question of partiality; political and personal influences in the selection of the men would be entirely eliminated if the commission is established by a legislative act; and finally, the honor and reputation of both professions would be elevated to a high level.

Furthermore, it is suggested that in the creation of such an act of legislation, all civil cases in which the question of bodily damage comes up should be borne in mind. Corporations and individuals would both be benefited considerably by such an impartial method of dealing. It would greatly facilitate the work of the courts and defending lawyers, and all inconvenient and unpleasant incidents which the courts are compelled to witness would thus be avoided. Justice and fairness to all would be the result. Errors in procedure, in judgment, and in court decisions would be reduced to a minimum. There can be no doubt that the present methods of expert testimony are genuinely intolerable and distasteful to every fair-minded man.

ALFRED GORDON, M.D.,
Philadelphia, Pa.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

Officers' Department

A. C. MORGAN, M.D., Sc.D., F.A.C.P., *President*
2018 Chestnut Street, Philadelphia, Pa.

AN EDUCATIONAL CONTRAST

"That Which Is Morally Wrong Can Never Be Politically Right"

The following information has been officially furnished by the Department of Public Instruction at Harrisburg. Careful perusal of this material is convincing as to the high standard of educational requirements which have existed in Pennsylvania for many years. The requirements are not unjust, are on a plane of equality with the foremost states of the Union, and, with the exception of medicine, there has not been any organized attempt made to evade or avoid the requirements laid down by the Department of Public Instruction.

The healing art is now subject to assault on the part of those who are woefully deficient in the matter of preliminary education. There is no moral or legal reason why this should obtain or be allowed to continue. The healing art has to do with life and health, which is of far greater importance than the mere matter of dollars and cents, and yet this Commonwealth permits a thousand poorly equipped men and women with little or no educational foundation to foist upon the innocent and ignorant public their false claims that cannot stand the acid test of scientific investigation, wilfully ignoring the laws governing the healing art and defying the tenets of common decency.

When will the people of Pennsylvania wake up?
Can the Legislature afford to let down the bars?
Will the Department of Justice fulfill its sworn obligation to dispense justice and equity?

LIST OF PROFESSIONS AND THEIR EDUCATIONAL REQUIREMENTS

Profession	*Preliminary Education*	*Professional Education*
Dentristy	4 years high school 1 year college	4-year course
Chiropody	4 years high school	2-year course
Drugless Therapy	4 years high school 1 year college	3-year course
Medicine	4 years high school 2 years college*	4-year course 1 year internship
Nursing	1 year high school	2 and 3 years
Optometry	4 years high school	3-year course
Osteopathy	4 years high school 1 year college	4-year course
Pharmacy		
Pharmacist	4 years high school	3-year course 3 years experience
Assistant Pharmacist	2 years high school	2 years experience
Undertakers		
After January 1, 1928	1 year high school	2 years apprenticeship
After January 1, 1929	2 years high school	
After January 1, 1930	3 years high school	
After January 1, 1931	4 years high school	
Public Accountants	4 years high school or 4 years high school 4 years college	5 years experience 3 years experience

*The two years of college work is the medical-school requirement. The State requirement is one year of college credit in each of the studies: physics, chemistry, and biology.

A four-year high-school course is necessary before entering an institution to study the following subjects:

Theology (7,000), law (11,000), medicine (12,000), drugless therapy, veterinary medicine (1,300), dentistry (5,000), pharmacy (6,000), electrical engineering (13,000), mechanical engineering (4,000), mining engineering (1,800), sanitary engineering, hydraulic engineering, installing engineering, agricultural engineering, irrigation and drainage, experts in department of agricultural and U. S. experiment stations, economic zoölogy and biology, fisheries and hatching stations, forestry, consular and diplomatic service, geology and geological survey, consulting chemist, chemical engineering, expert work in laboratories for making antitoxins and detecting contagious diseases, assaying and metallurgy (3,000), school supervision, high-school positions, college professorships, teaching positions in schools and professional schools (45,000), accountancy (10,000), architecture (2,000), nursing (9,000).

NOTE: The figures indicate approximately the numbers in the professions in Pennsylvania.

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade Building
Pittsburgh, Pa.

COUNCILOR DISTRICT MEETING

The annual meeting of the Sixth Councilor District of the Medical Society of the State of Pennsylvania, will be held at the Penn Alto Hotel, Altoona, Pa., on Wednesday morning, May 16, 1928, at 11 o'clock (Eastern Standard Time).

PROGRAM

9.30-10.45 A. M.—Dry Clinics at Altoona Hospital, Howard Avenue and Seventh Street, and Mercy Hospital, 2601 Eighth Avenue.

11 A. M.—Councilor Meeting at Penn Alto Hotel.

Address of Welcome. AUGUSTUS S. KECH, Altoona, President, Blair County Medical Society.

Response. J. A. C. CLARKSON, Lewistown, Secretary, Mifflin County Medical Society.

Nontuberculous Lung Lesions. O. H. PERRY PEPPER, Philadelphia, Professor of Clinical Medicine, University of Pennsylvania.

Discussion opened by J. PAUL FRANTZ, Clearfield.

The Management and Some of the Complications of Labor and Puerperium. EDMUND B. PIPER, Philadelphia, Professor of Obstetrics, University of Pennsylvania.

Discussion opened by CLOY G. BRUMBAUGH, Huntingdon.

1.30 P. M.—Dinner will be served at $1.50 per plate.

President Morgan, President-Elect Simonton, and Secretary Donaldson will give short talks after dinner. The county societies bordering on the counties of this district are also invited. The meeting will be held under the auspices of the District Councilor, Dr. Howard C. Frontz, the District Censors, and the Blair County Committee.

CONTRIBUTIONS

Our Medical Benevolence Fund has recently been increased by the following generous contributions:

Woman's Auxiliary of Beaver County Medical Society	$125.00
Woman's Auxiliary of Fayette County Medical Society	350.00
Total	$475.00

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to April 17:

ALLEGHENY: *New Members*—Charles A. Ley, 521 S. Aiken Ave., John E. Holt, Mercy Hospital, John J. McCague, Mercy Hospital, William F. Herron, 5602 Walnut St., Robert S. Hansell, Box 14, Dormont, Pittsburgh. *Reinstated Member*—F. A. Hartung, 543 Brownsville Road, Pittsburgh. *Resignation*—Pauline Baker Martin, Pittsburgh; Robert E. Gardner, Woodville.

ARMSTRONG: *New Member*—Joseph A. Robinson, New Bethlehem (Clarion Co.).

BEAVER: *New Members*—Maurice H. McCaffrey, Beaver; Thomas W. McCreary, Monaca. *Transfer*—Ira C. Duncan, Beaver Falls, from Allegheny County Society; Raymond L. Sheets, Beaver Falls, from Butler County Society.

BEDFORD: *Resignation*—Henry B. Strock, Bedford.

BLAIR: *New Member*—William H. Morrow, Bellwood.

BRADFORD: *Removal*—Willis T. Davison from Babson Park, Fla., to Canton, Pa. *Deaths*—Henry A. Glover, Nichols, N. Y. (Univ. of Buffalo '82), January 10, aged 77; John E. Everitt, Sayre (N. Y. Univ. Med. Coll. '87), recently.

BUTLER: *New Member*—Joseph P. Triccase, 343 S. Main St., Butler.

CHESTER: *Removal*—Glenn C. Campbell from West Chester to Lucernemines (Ind. Co.).

DAUPHIN: *New Members*—Wayne D. Stetler, 40 E. Chocolate Ave., Hershey; John L. Lanshe, 810 N. Second St., Harrisburg.

DELAWARE: *Death*—Adam J. Simpson, Chester (Gross Med. Coll. '01), April 6, aged 50.

ERIE: *New Member*—Usher H. Meyers, 108 W. 7th St., Erie. *Resignation*—John A. Darrow, Glendale, Calif., formerly of Erie.

HUNTINGDON: *New Member*—Mary N. Tiffany, Koweit, Persian Gulf, Arabia.

INDIANA: *New Members*—James G. Gemmel, Iselin; Armand G. Sprecher, Homer City; Edward F. Shaulis, Indiana.

JEFFERSON: *Transfer*—C. Wearne Beals, DuBois, from Allegheny County Society.

LACKAWANNA: *Death*—Gerald A. Kelly, Jessup (Univ. of Pa. '22), March 14, aged 34.

LEHIGH: *Removal*—Michael Fresoli from Allentown to 208 E. 4th St., Bethlehem (Northampton Co.). *Transfer*—John H. Hennemuth, Emaus, from Huntingdon County Society. *Death*—Nelson F. Kistler, Allentown (Bellevue Hosp. Med Coll. '81), March 26, aged 64.

LUZERNE: *New Members*—Seth W. Kistler, 200 State St., Nanticoke; Douglas S. Kistler, 307 S. Franklin St., Wilkes-Barre; Anatole Desjardins, Wilkes-Barre General Hospital, Wilkes-Barre; Edward R. Roderick, 92 So. Franklin St., Wilkes-Barre. *Removal*

—Mayo Robb from Hazleton to R. D. 3, Norristown (Montg. Co.).

Lycoming: *Death*—William Bastian Konkle, Montoursville (Jeff. Med. Coll. '84), March 30, aged 70.

McKean: *New Member*—Louis A. Larson, Kane.

Mercer: *New Member*—Melba D. Mason, Sharon.

Montgomery: *New Member*—De La Ray Signor, Pottstown. *Removal*—Lillian Malone from Norristown to Box 233, Trenton, N. J. *Death*—George W. Stein, Norristown (Jeff. Med. Coll. '91), March 31, aged 68.

Perry: *New Member*—Horace W. McKenzie, Duncannon.

Philadelphia: *New Members*—Morton R. Cohen, 1831 S. Broad St., John P. Duggan, 3464 W. School Lane, Gtn., Marie Finkelstein, 5518 Spruce St., Raymond C. Hacker, 1823 W. Erie St., Carl T. Houlihan, 728 S. 60th St., Armand J. Miller, 544 Vankirk St., Alice M. North, 7301 Boyer St., Mt. Airy, Charles E. Price, 316 N. 52d St., Scott P. Verrei, 956 Pratt St., Helen L. Williams, 8329 Stenton Ave., Philadelphia. *Reinstated Members*—Edith S. Wrisley, 2430 Columbia Ave., Eugene Swayne, 5617 Girard Ave., Robert B. Walker, 1936 Wallace St., Philadelphia. *Transfer*—James K. Wagenseller, 1202 W. Erie Ave., Philadelphia, from Dauphin County Society. *Resignation*—Clarence E. Apple, George H. Borrowes, Philadelphia; Emanuel M. Sickel, Lakewood, N. J. *Deaths*—Benjamin F. Wentz, Philadelphia (Univ. of Penna. '95), recently, aged 58; M. Jane Sands, Philadelphia (Woman's Med. Coll. '18), recently, aged 35.

Sullivan: *Death*—Martin E. Herrmann, Dushore (Bellevue Hosp. Med. Coll. '83), April 2, aged 86.

Tioga: *Death*—Clarence C. Gentry, Knoxville (Coll. P. & S., Balt. '83), February 29, aged 71.

Union: *Transfer*—George B. Faries, Lewisburg, from Crawford County Society.

Venango: *New Members*—Charles H. Brown, Franklin; Alfred C. Hanton, 243 Seneca St., Charles L. Zimmerman, 91 Seneca St., Philip J. Sheridan, Veach Bldg., Oil City.

Washington: *New Members*—Harold H. McBurney, Burgettstown; Wayne T. McVitty, Houston; Audra H. Yarnall, 415 Third St., California; Raymon G. Emery, 725 Wash. Trust Bldg., Washington. *Reinstated Member*—James L. Brennan, Washington. *Removal*—William F. Keck from Fredericktown to Beallsville.

Wayne: *New Member*—Marian Kimball-Frisbie, Narrowsburg, N. Y. *Death*—Ernest O. Chellis, Narrowsburg (Balt. Med. Coll. '98), November 28, 1927, aged 58.

Westmoreland: *New Members*—Charles H. Poole, Box 2, Ruffsdale; Joseph L. Sowash, 304 Sixth St., Irwin. *Removal*—Spurgeon S. De Vaux from Mammoth to Kecksburg.

York: *Resignation*—Louis V. Williams, San Diego, Calif., formerly of York. *Removal*—Curtis J. Hamme from Dover to Edinburg, Texas.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since March 19. Figures in first column indicate county society numbers; second column, state society numbers.

Mar. 19	Warren	39	5670	$5.00
	Butler	34-42, 44-45	5671-5681	55.00
	Dauphin	132-135	5682-5685	20.00
	Venango	24-28, 65	5686-5691	30.00
	Cambria	128-139	5692-5703	60.00
	Chester	61-64	5704-5707	20.00
21	Bucks	32-51	5708-5727	100.00
	Lawrence	39-44	5728-5733	30.00
	Delaware	95-97	5734-5736	15.00
	Lancaster	132-140	5737-5745	45.00
Mar. 21	Carbon	22-26	5746-5750	$25.00
	Crawford	18-20	5751-5753	15.00
	Butler	46-47	5754-5755	10.00
	Clearfield	57-59	5756-5758	15.00
	Wayne	24	5759	5.00
	Washington	122-126	5760-5764	25.00
	Jefferson	24-34	5765-5775	55.00
	Armstrong	41-46	5776-5781	30.00
	Tioga	26	5782	5.00
	Armstrong	47	5783	5.00
22	Crawford	21-22	5784-5785	10.00
	Mercer	58-61	5786-5789	20.00
	McKean	3-35	5790-5822	165.00
	Dauphin	136-147	5823-5834	60.00
	Chester	66	5835	5.00
	Westmoreland	89-120	5836-5867	160.00
	Delaware	98	5868	5.00
	Northampton	113-114	5869-5870	10.00
	Greene	25	5871	5.00
	Somerset	35-36	5872-5873	10.00
	Venango	29-30	5874-5875	10.00
	Lycoming	105	5876	5.00
	Allegheny	1046-1116	5877-5947	355.00
26	Schuylkill	141-147	5948-5954	35.00
	Lawrence	45-53	5955-5963	45.00
	Greene	21	5964	5.00
	Cumberland	32-33	5965-5966	10.00
	Adams	22-23	5967-5968	10.00
	Warren	40-42	5969-5971	15.00
	Dauphin	148-152	5972-5976	25.00
	McKean	36	5977	5.00
	Crawford	23-26	5978-5981	20.00
	Mercer	62	5982	5.00
	McKean	37	5983	5.00
	Northumberland	54-56	5984-5986	15.00
	Indiana	1-43	5987-6029	215.00
	Blair	1-67	6030-6096	335.00
	Berks	77-134	6097-6154	290.00
	Luzerne	222-254	6155-6187	165.00
	Fayette	75-88	6188-6201	70.00
	Union	9-12	6202-6205	20.00
	Westmoreland	121-126	6206-6211	30.00
	Wayne	25	6212	5.00
	Franklin	54	6213	5.00
	Tioga	27	6214	5.00
	Dauphin	153-154	6215-6216	10.00
	Somerset	37	6217	5.00
	Jefferson	35-37	6218-6220	15.00
	Potter	12	6221	5.00
	Perry	10-16	6222-6228	35.00
	Beaver	48-61	6229-6242	70.00
	Schuylkill	148-149	6243-6244	10.00
27	Crawford	27-28	6245-6246	10.00
	Berks	135-137	6247-6249	15.00
28	Cambria	140-147	6250-6257	40.00
	Butler	43, 48	6258-6259	10.00
	Snyder	5	6260	5.00
	Lawrence	54	6261	5.00
	Warren	43	6262	5.00
	Fayette	89-96	6263-6270	40.00
	Lycoming	106-111	6271-6276	30.00
29	Huntingdon	30-33	6277-6280	20.00
	Butler	49	6281	5.00
	Dauphin	156-157	6282-6283	10.00
	Clearfield	60-61	6284-6285	10.00
	Indiana	45-49	6286-6290	25.00
	Sullivan	1-5	6291-6295	25.00
	Venango	31	6296	5.00
	Luzerne	255-268	6297-6310	70.00
	Northumberland	57-59	6311-6313	15.00
	Mercer	63-64	6314-6315	10.00
	Montgomery	155-164	6316-6325	50.00
30	Lawrence	55	6326	5.00
	Beaver	62-71	6327-6336	50.00
	York	109-130	6337-6358	110.00
	Wayne	26	6359	5.00
	Lycoming	112-113	6360-6361	10.00
31	Lackawanna	77-178	6362-6463	510.00
	Venango	32-36	6464-6468	25.00
	Huntingdon	34	6469	5.00

Mar. 31	Washington	27-30	6470-6473	$20.00
	Dauphin	55, 58-60	6474-6477	20.00
	Bedford	9-11	6478-6480	15.00
	Lawrence	56-58	6481-6483	15.00
	Cambria	148-162	6484-6498	75.00
	Bucks	52-61	6499-6508	50.00
	Adams	24	6509	5.00
	Chester	67	6510	5.00
	Lancaster	141-143	6511-6513	15.00
	Indiana	44-46	6514-6516	15.00
Apr. 2	Luzerne	269-286	6517-6534	90.00
	Blair	68-93	6535-6560	130.00
	Lackawanna	179-200	6561-6582	110.00
	Delaware	99-102	6583-6586	20.00
	Adams	25	6587	5.00
	Mercer	65-69	6588-6592	25.00
	Venango	41-42	6593-6594	10.00
	Butler	50	6595	5.00
	Columbia	29-30	6596-6597	10.00
	Northumberland	60-64	6598-6602	25.00
	Columbia	28	6603	5.00
	Tioga	28	6604	5.00
	Mifflin	26	6605	5.00
	Northampton	115-119	6606-6610	25.00
	Clearfield	62-63	6611-6612	10.00
	Lawrence	59-61	6613-6615	15.00
	Venango	37-40	6616-6619	20.00
	Somerset	38-42	6620-6624	25.00
	Dauphin	161	6625	5.00
	Northampton	120-121	6626-6627	10.00
	Schuylkill	150-156	6628-6634	35.00
	Clearfield	64	6635	5.00
	Beaver	72-80	6636-6644	45.00
	Bucks	62-63	6645-6646	10.00
	Somerset	43	6647	5.00
	Crawford	29-32	6648-6651	20.00
	Washington	131-132	6652-6653	10.00
	Cumberland	34-35	6654-6655	10.00
	Indiana	53	6656	5.00
	Delaware	103-108	6657-6662	30.00
	Luzerne	287-289	6663-6665	15.00
	Schuylkill	157-158	6666-6667	10.00
	Mercer	70	6668	5.00
5	Luzerne	290-293	6669-6672	20.00
	Crawford	33-37	6673-6677	25.00
	Armstrong	48-52	6678-6682	25.00
	Cumberland	36	6683	5.00
	Westmoreland	127-159	6684-6716	165.00
	Perry	17	6717	5.00
	Somerset	44	6718	5.00
	Washington	133	6719	5.00
	Chester	65, 68, 69	6720-6722	15.00
	Lancaster	144-145	6723-6724	10.00
	Indiana	54	6725	5.00
	Northampton	122-124	6726-6728	15.00
	Venango	43-45	6729-6731	15.00
	Lehigh	97-123	6732-6758	135.00
6	Dauphin	162	6759	5.00
	Warren	44	6760	5.00
	Washington	134-135	6761-6762	10.00
	Dauphin	163	6763	5.00
	Luzerne	294-296	6764-6766	15.00
7	Adams	26	6767	5.00
	Venango	46-47	6768-6769	10.00
	Union	13	6770	5.00
	Allegheny	1117-1127	6771-6881	555.00
	Luzerne	297	6882	5.00
	Butler	51-52	6883-6884	10.00
	Philadelphia	1529-1918	6885-7274	1,950.00
11	Montgomery	165	7275	5.00
	Erie	139-149	7276-7286	55.00
	Columbia	31	7287	5.00
	Crawford	38-39	7288-7289	10.00
	Wayne	27-28	7290-7291	10.00
	Armstrong	53	7292	5.00
	Jefferson	38-45	7293-7300	40.00
	Warren	45	7301	5.00
	Butler	53	7302	5.00
	Dauphin	164	7303	5.00
	Franklin	55	7304	5.00
Apr. 11	Luzerne	298-299	7305-7306	$10.00
14	Mercer	71	7307	5.00
	Delaware	109	7308	5.00
	Beaver	81-87	7309-7315	35.00
	Venango	48	7316	5.00
	Washington	136-140	7317-7321	25.00
16	Bradford	34	7322	5.00
	Northampton	125	7323	5.00

COMMITTEE ON SCIENTIFIC WORK

O. H. Perry Pepper, M.D., *Chairman*
Philadelphia, Pa.

THE SURGICAL SECTION PROGRAM

The program for the Surgical Section of the Medical Society of the State of Pennsylvania at the coming meeting in Allentown will be one which no man with surgical leanings will be willing to miss.

Our guests will be Dr. Dallas B. Phemister, professor of surgery in the University of Chicago, and Dr. Harvey B. Stone, associate in surgery at Johns Hopkins. Dr. Phemister will speak on "The Pathology and Treatment of Pyogenic Infections of Joints," a subject which his original work has greatly clarified. Dr. Stone will consider "Chronic Ulcerative Colitis," a widely disseminated disease, as yet incompletely understood. The serious nature of certain cases and the help which can be derived from surgery are not generally appreciated.

A symposium on "Thoracic Surgery" will define the types of pulmonary tuberculosis in which benefit may be obtained by mechanical principles and describe the methods.

"The Common Accidents of Industry and the Disabilities Resulting Therefrom" will be considered by specialists in this field.

The recent work on "Pathogenesis of Toxic Goiter" will be reviewed with reference to its bearing on the many practical questions that arise in the handling of this important disorder.

"The Treatment of Compound Fractures" is still far from standardization, and a symposium will be devoted to this subject by men of wide experience.

A review of important new work in "Intestinal Obstruction" will be presented with the hope that the baffling mortality of this condition may be improved.

"Cesarean Section, its Indications and Methods" will make up another symposium.

The usual period will be devoted to interesting case reports, and finally "General Aspects of the Cancer Problem," perhaps the greatest problem still confronting us, will receive adequate consideration.

It will be a great program. Make your plans to attend.

COMMISSION ON CANCER

Jonathan M. Wainwright, M.D., *Chairman*
Scranton, Pa.

SPECIAL CANCER STUDY COURSE
May 22, 23, and 24, 1928

At the request of the Commission on Cancer, the Committee on Cancer Control of the Philadelphia County Medical Society, with the coöperation of the American Society for the Control of Cancer, has arranged a special intensive course for all physicians who are interested. Sessions are to be held morning, afternoon, and evening. The mornings are to be devoted to special clinical demonstrations upon diagnosis, treatment, and results in the centrally located teaching hospitals of Philadelphia. A special free buffet luncheon is to be served to the physicians who register for this course, so as to conserve time and prevent scattering.

Register now with Franklin M. Crispin, Executive Secretary, the Philadelphia County Medical Society, S. E. Corner 21st and Spruce Streets, Philadelphia. The registration fee is $5. Make checks payable to the Philadelphia County Medical Society.

Please state with your application the hospitals at which you prefer to be in attendance, and so far as amphitheater space will permit, your wish will be granted. A card of admission will be sent to you, and the front space will be reserved until 9 a. m. in the order of registration for all those who are registered in advance.

PROGRAM

Tuesday, May 22, 1928

9 to 12 a. m.

PHILADELPHIA GENERAL HOSPITAL
Clinical Demonstrations of Diagnosis, Technic, and Results, arranged by J. B. Carnett.

G. M. Dorrance, Cancer of the Tongue.
F. O. Lewis, The Treatment of Cancer of the Larynx.
J. F. Schamberg, Lead Treatment of Cancer.
J. B. Carnett, Discussion of Methods of Dissemination of Cancer.
C. C. Norris, Demonstration of Methods of Irradiation of Cancer of the Cervix.
J. McFarland, Parotid Tumors.
H. S. Callen, Demonstration of Radium Applicators.
J. C. Howell, Discussion of Some Practical Points in Colostomy.
Mr. J. L. Weatherwax, The Accurate Administration of Irradiation.
J. D. Morgan, Electrothermic Methods in Treatment of Cancer.
F. J. Jodzis, Demonstration of Recent Cancer Specimens.

UNIVERSITY OF PENNSYLVANIA HOSPITAL,
Arranged by Henry K. Pancoast

A. L. Bothe, Malignancy of the Kidney.
F. E. Keene and E. P. Pendergrass, Cancer of the Ovary; Diagnosis and Surgical and Radiation Treatment.
C. C. Norris, Cancer of the Uterus.
Drs. Wolferth, Fox, Tucker and Pancoast, Cancer of the Lung; Medical, Pathologic, and Bronchoscopic Diagnosis and Prognosis from Radiation Treatment.
E. L. Eliason, Precancerous Lesions of the Stomach. Surgical Treatment.
G. P. Muller, Cancer of the Stomach. Surgical Treatment and End Results.
G. P. Muller, Cancer of the Esophagus. Surgical Treatment and End Results of All Methods of Treatment.
C. H. Frazier, Surgical Relief of Pain in Cancer. Cordotomy.
F. C. Grant, Surgical Relief of Pain in Cancer. Fifth-Nerve Distribution.
T. Fay, Surgical Relief of Pain. Ninth- and Tenth-Nerve Distribution.
J. H. Stokes, Precancerous Dermatologic Lesions; Diagnosis, Significance, and Treatment.
N. W. Winkelman, Metastatic Cancerous Lesions in the Central Nervous System. Pathologic Significance of Clinical and Roentgen-Ray Manifestations.

Take taxicabs at gate or cars east on Woodland Avenue to 22d Street.

12.30 p. m.

Free buffet luncheon for members, at the RITTENHOUSE HOTEL, 22d and Chestnut Streets; registration card must be shown at the door or professional card as a record.

2 to 5 p. m.

In the auditorium of the PHILADELPHIA COUNTY MEDICAL BUILDING, S. E. Corner 21st and Spruce Streets. Presiding officer, Rose Hirschler, member of the Committee on Cancer Control.

J. F. Schamberg, Cancer of the Skin. Diagnosis and Precancerous Lesions.
G. E. Pfahler, Cancer of the Skin. X-Rays, Radium, and Electrocoagulation, and Their Special Indications.
J. B. Carnett, Cancer of the Breast. Early Diagnosis and Operative Treatment.
B. P. Widmann, Cancer of the Breast. Postoperative and Preoperative Radiation Treatment. Indications and Results.
B. A. Thomas, Cancer of the Bladder and Penis. Cystoscopic Diagnosis and Surgical Treatment.
G. E. Pfahler, Cancer of the Bladder and Penis. X-Ray Diagnosis of Bladder Tumors; Radiation and Electrocoagulation.

8 to 10 p. m.

In the auditorium of the PHILADELPHIA COUNTY MEDICAL BUILDING, S. E. Corner 21st and Spruce Streets. Presiding Officer, I. P. Strittmatter, president of the Philadelphia County Medical Society.

A. A. Cairns, *Director, Department of Health, Philadelphia,* What the Board of Health Has Done and What It Can Do.
Francis A. Faught, Health Examinations as a Means of Diagnosis in Cancer Control.
Jonathan Wainwright, *Chairman, Cancer Commission, Medical Society of the State of Pennsylvania,*

What Pennsylvania Has Done in the Control of Cancer and What Can Be Done.

Damon Pfeiffer, *Chairman, American Society for Cancer Control for Pennsylvania,* What Philadelphia Has Done and What Can Be Done Toward the Control of Cancer.

George Soper, *Managing Director of the American Society for the Control of Cancer,* What Has Been Done and What Can Be Done Nationally for the Control of Cancer.

Wednesday, May 23, 1928

9 to 12 a. m.

JEFFERSON HOSPITAL. Clinical Demonstrations of Diagnosis, Technic, and Results, arranged by P. Brooke Bland.

John T. Farrell, The Diagnosis of Visceral Cancer by Means of the X-Ray.

Willis F. Manges, The Diagnosis and X-Ray Treatment of Carcinoma of the Lungs.

Wm. H. Schmidt, The Electrical Methods in the Treatment of Cancer.

Wm. S. Newcomet, Radium in the Treatment of Cancer.

Thomas A. Shallow, The Diagnosis of Cancer of the Esophagus and Stomach.

Arthur E. Billings, Surgical Treatment of Cancer of the Stomach.

Brooke M. Anspach, Treatment of Cancer of the Generative Organs of Women.

Hiram R. Loux, Cancer of the Male Generative Organs.

PENNSYLVANIA HOSPITAL. Arranged by John H. Gibbon.

J. Mason Astley, Early Diagnosis of Carcinoma of the Breast.

J. Norman Coombs, Experiences in the Treatment of Inoperable Carcinoma by Animal Proteids.

W. W. Babcock, Lantern Demonstration of Technic. Radical Operation in Carcinoma of the Breast.

John H. Gibbon, Benign and Malignant Tumors of the Breast.

John B. Flick, Carcinoma of the Lung.

W. E. Lee, Cancer of the Large Bowel.

John Paul, Tumors of the Breast and Colon.

E. J. Klopp, Carcinoma of the Cervix.

Charles Mitchell, Carcinoma of the Rectum.

Henry Brown, Carcinoma of the Mouth.

Leon Herman, Carcinoma of the Prostate.

Take taxicabs at entrance or Walnut Street car to 22d Street.

12.30 p. m.

Free buffet luncheon for members at the RITTENHOUSE HOTEL, 22d and Chestnut Streets. Registration card to be presented at the door or professional card as a record.

2 to 5 p. m.

In the auditorium of the PHILADELPHIA COUNTY MEDICAL BUILDING, S. E. Corner 21st and Spruce Streets. Presiding officer, G. E. Pfahler, Chairman of the Committee on Cancer Control.

Chevalier Jackson, Cancer of the Larynx and Esophagus. Bronchoscopic and Laryngoscopic Diagnosis.

Willis Manges, Cancer of the Larynx and Esophagus. X-Ray Diagnosis and Radiation Treatment.

Robert Ivy, Cancer of the Mouth. Diagnosis and Surgical Treatment.

W. L. Clark, Cancer of the Mouth. Radiation and Electrocoagulation Treatment.

H. L. Bockus, Cancer of the Stomach. Early Symptoms and Means of Investigation.

E. P. Pendergrass, Cancer of the Stomach. X-Ray Diagnosis.

W. W. Babcock, Cancer of the Stomach. Surgical Treatment.

8 to 10 p. m.

In the auditorium of the PHILADELPHIA COUNTY MEDICAL BUILDING, S. E. Corner 21st and Spruce Streets. Presiding Officer, G. E. Pfahler, Chairman of the Committee on Cancer Control.

Stanley Reimann, The Importance of Microscopic Studies in Early Diagnosis of Cancer, and How to Take Sections.

Alexis Carrel, *of the Rockefeller Institute,* Moving Pictures of Tissue Cells with Special Reference to Cancer Cells.

J. B. Carnett, Where and How to Look for Metastasis.

J. M. Wainwright, Large Microscopic Sections in Carcinoma of the Breast.

Thursday, May 24, 1928

9 to 12 a. m.

GRADUATE HOSPITAL, Clinical Demonstrations of Diagnosis, Technic, and Results, arranged by G. E. Pfahler.

J. V. Klauder, Pigmented Moles and Birthmarks; What to Do with Them.

William MacKinney, Early Diagnosis of Cancer of the Bladder.

William Bates, Demonstration of Some Remarkable Cases of Cancer.

Eugene Case, Demonstration of Gross and Microscopic Lesions of the Clinical Cases Shown.

John Jopson, Bone Tumors and Their Management.

Wm. R. Nicholson, The Early Signs of Cancer and the Treatment of Precancerous Lesions.

G. E. Pfahler, The Results of Radium Treatment in Cancer of the Mouth.

W. O. Hermance, The Early Diagnosis of Cancer of the Rectum and the Treatment of Precancerous Lesions.

Take taxicabs at entrance, or 20th Street car to Chestnut Street, or walk.

HAHNEMANN HOSPITAL. Arranged by A. B. Webster and Frank Benson.

Stewart Rodman, *Woman's Medical College.* The Relationship of Gastric Ulcer to Carcinoma.

Catherine MacFarland, *Woman's Medical College.* Cancer of Cervix; Prevention.

H. L. Northrup, Carcinoma of the Mouth, Jaw and Pharynx.

D. B. James and Frank Benson, Intrapelvic Radium Implantation for Inoperable Cancer of the Uterus.

A. B. Webster, Practical Considerations with Regard to Carcinoma of the Breast.

Take taxicabs at entrance, or Market Street car No. 31, or walk to 22d and Chestnut Streets.

12.30 p. m.

Free buffet luncheon for members, at RITTENHOUSE HOTEL, 22d and Chestnut Streets. Registration card must be shown at the door or professional card as a record.

2 to 5 p. m.

In the auditorium of the PHILADELPHIA COUNTY MEDICAL BUILDING, S. E. Corner 21st and Spruce Streets. Presiding officer, G. E. Pfahler, Chairman of the Committee on Cancer Control.

Henry K. Pancoast, Cancer of the Bowel. Early Symptoms and X-Ray Diagnosis.
G. P. Muller, Cancer of the Bowel. Surgical Treatment.
Collier Martin, Cancer of the Rectum. Precancerous Lesions and Their Treatment.
John Jopson, Cancer of the Rectum. Operative Treatment.
John A. McGlinn, Cancer of the Uterus. Prevention of Cancer and Early Diagnosis.
P. Brooke Bland, Cancer of the Uterus. Operative Treatment.
C. C. Norris, Cancer of the Uterus. Radiation Treatment.

8 to 10 p. m.

In the auditorium of the PHILADELPHIA COUNTY MEDICAL BUILDING, S. E. Corner 21st and Spruce Streets. Presiding Officer, A. C. Morgan, President of the Medical Society of the State of Pennsylvania

J. A. Kolmer, Chemotherapy and Serum Therapy in Malignant Disease.
Joseph McFarland, Heredity in Malignant Disease.
J. O. Bower and J. H. Clark, Diagnosis in Cancer of the Breast in the Obese with Special Reference to the use of Skin Prints. Moving-Picture Demonstration.
O. H. Petty, Diet and Metabolism in Malignant Disease.

Committee on Cancer Control of the Philadelphia County Medical Society

George E. Pfahler, *Chairman*
W. Wayne Babcock
P. Brooke Bland
F. F. Borzell
John O. Bower
J. B. Carnett
Francis A. Faught
W. E. Hermance
Rose Hirschler
Joseph V. Klauder
John A. Kolmer
Henry K. Pancoast
Stanley Reimann
J. F. Schamberg
Edward A. Schumann
Aubrey B. Webster
John A. McGlinn
Damon Pfeiffer

COMMITTEE ON PUBLIC HEALTH LEGISLATION

Paul R. Correll, M.D., *Chairman*
Easton, Pa.

LEGISLATIVE EDUCATION

In traveling through the State visiting the various county societies, it has developed that the activities of the various societies in our present controversy are designed to protect and to perpetuate the amended Medical Practice Act of 1911, and it has been clear to us that few of the entire personnel of the societies have any real or comprehensive grasp of the facts. The education of our public cannot go far and cannot be of truly great merit until every member of each and every county society sits down and studies the valuable matter already published which has covered the case so well. Nothing can do the cause of right and justice more harm than the spreading by our members of false doctrines not founded on a proper understanding of the complete facts which are available to them.

The cult leaders make much of the allegation that organized medicine is interested in this controversy from purely personal motives; that the licensing of the cults would work an economic hardship on the physician licensed at present. This is totally a misstatement of fact. There is no direct battle between the licensed physicians of Pennsylvania and the unlicensed cultists. The position assumed refers only to preprofessional and professional standards. When the cultist will honestly and properly prepare himself, and satisfy the State agencies which grant licenses on the basis of his fitness, the medical profession will feel that it has no justifiable protest to make.

In short, the cultists have avoided the responsibilities designated by the laws as they are written on the statute books, and now, in bad faith, they demand that the laws they have violated shall be altered and invalidated for their own selfish purposes. The desire of organized society to respect existing laws and to abide by their mandates, presents, for them, an argument for franchise; although a wilful violation of those laws should rob them of the privilege of participating in the wholesome benefits to be derived from good and conscientious lawmaking.

A lawbreaker has no right to demand laws for his benefit and for the legalization of crime committed in the past. This is exactly the present status of the unlicensed cultist in Pennsylvania. It behooves each and every individual legal practitioner of medicine to keep well within the channel, and to tell and retell the story of the high plane upon which the medical profession is now working. Our desire is primarily, and only, for perpetuation of just and proper standards of premedical and professional training, and for maintenance of the right of franchise under the present Law of 1911. Any political maneuver which will destroy or invalidate this law, passed in the interest of the public and for their safety, will be reactionary and will work prejudicially against the best interests of the people of our Commonwealth.

The legislators from your district are sent to Harrisburg as your representatives, and, therefore, their every action must have for its single purpose the enactment of legislation for the best interests of the people and the development of the highest type of success and social happiness for its citizens.

Are you content to sit placidly and allow your

professional standards to be lowered without making an effort to put a stop to concerted cult action which will put you on a plane with charlatans and pretenders who seek to "short-cut" the years of study necessary to the making of an adequate healer?

This, in reality, is the end to which the cults are striving with crafty political machination as their means. Be alert. Know the sentiments of your legislators before they are elected, for after they are elected it will be too late. Many of these legislators are friends of our profession, and would not permit unwise legislation were they cognizant of the untold harm that could be done by lowering the present standards.

This is a plea for self-education by the individual practitioner and the education of legislators by members of our profession. We can accomplish nothing if we take the attitude that our fellow practitioners will do the work. Let us each put a shoulder to the wheel and be a motive power rather than a dead weight.

SEND IN YOUR PETITIONS

Voters' Educational Petitions have been received up to April 23d from thirty-one counties, containing a total of 9,430 names, as follows:

County.	*No. of Signers*	*County*	*No. of Signers*
Allegheny	5,165	Lebanon	23
Armstrong	28	Luzerne	46
Berks	93	Lycoming	28
Blair	1	Monroe	126
Cambria	14	Montgomery	300
Center	14	Northampton	867
Chester	79	Northumberland	321
Clarion	53	Philadelphia	46
Columbia	28	Schuylkill	112
Cumberland	81	Snyder	14
Dauphin	1,450	Tioga	56
Fayette	28	Warren	51
Huntingdon	33	Washington	126
Indiana	37	Westmoreland	28
Jefferson	14		
Lancaster	74	Total	9,430
Lawrence	94		

Doubtless there are many signed petitions which have not yet been turned in and which will increase the list greatly. Please send them as soon as they are signed, to the chairman of your committee, Paul R. Correll, M.D., 402 First National Bank Building, Easton, Pa., so that they may be put to work in the interest of maintaining the present high standards of education in the healing art. Individuals obtaining signatures to petitions are requested to endorse each copy by attaching their signature on the side of the petition.

By the time this appears, the results of the primaries will be known. This is only the beginning of the fight, however. It will be necessary to continue securing signatures to the petitions until the election next November.

So get busy! Do your stuff!

County Society Reports

BERKS—APRIL

The April meeting was held at Medical Hall, with President C. F. Smith in the chair.

Dr. Russell S. Boles, Philadelphia: The Practical Consideration of Chronic Diseases of the Appendix.—In order to make a correct diagnosis of chronic appendicitis there must be a history of frequently recurring acute attacks. Its origin may be through the blood stream from diseased tonsils, teeth, or respiratory tract, or through the intestinal tract. The latter is the more logical, since the colon bacillus is the most frequent offender, either alone or with the streptococcus or staphylococcus. Contributing factors may be fecal concretions, trauma, and usually faulty diet, as is shown by the fact that the less refined the diet the fewer the cases of appendicitis.

A lesion of the appendix causes irritation of the Meissner ganglion, with reflex gastric symptoms in particular and nervous symptoms in general. Chronic appendicitis *per se* is not a local disease. It involves a general condition often found in a visceroptotic, neurotic person. The patient complains of epigastric pain and general abdominal discomfort, with flatulence, heartburn, and constipation. Tenderness may be over the appendix or referred to the epigastrium, or it may not be localized at all. Some authorities say that there can be no tenderness without some degree of peritonitis. In a number of these cases, tenderness is present even after removal of the viscera. If the tenderness is due to intercostal neuralgia, it will be elicited with a tense abdomen as well as a relaxed abdomen. If, however, the tenderness is of visceral origin, it is elicited only on deep palpation with the abdominal muscles tense. This is known as Carnett's method. Tenderness over McBurney's point alone is a flimsy excuse for operation. The x-ray is not important unless borne out by clinical findings. A laboratory appendix is not always a clinical appendix.

Chronic appendicitis may be confused with: disease of the colon, such as malignancy, adhesions, or multiple diverticula; duodenal disease; chronic gall-bladder disease; renal or ureteral calculi; tuberculosis of tubes and ovaries; tuberculous peritonitis; functional or organic nerve diseases.

Treatment consists of: (1) Reconstruction with special attention to diet, aiming to increase weight and to overcome intestinal spasm. Therefore, roughage and purgatives are forbidden, while milk and a generous amount of starchy food is indicated. (2) Hot fomentations locally. (3) Rest before and after meals, or, in severe cases, absolute rest in bed for two weeks. (4) Application of well-fitting belt or corset. (5) Correction of faulty posture. (6) Fresh air and sunlight. (7) Sleep. (8) Sedatives—bromids, allonal, luminol, etc. (9) Tonics and alteratives. (10) Bland laxatives, such as agar-agar. (11) Alkalies only in small doses. (12) Colonic irrigations once or twice a week. (13) Transduodenal lavage. (14) Psycho-

therapy. (15) Operation in selected cases, such as recurrent acute attacks with leukocytosis. Operation is contraindicated in chronic indigestion disturbances without a known cause and in absence of recurrent acute attacks. (16) Careful individualization of all patients is very important.

Pearl E. Hackman, M.D., *Reporter.*

CAMBRIA—APRIL

At the meeting on April 12th about twenty laymen were present as invited representatives of the various civic clubs and organizations of the city of Johnstown. Dr. Paul R. Correll, of Easton, gave a talk on the cults, emphasizing the fact that the amended Medical Practice Act of 1911 should be supported and not changed.

Dr. William D. Stroud, of Philadelphia, made an address on the "Diagnosis and Treatment of Auricular Fibrillation." He discussed the prevalence of heart disease and the things that are being done and should be done to cut down the morbidity and mortality rates, making a plea for a thorough classification of each heart case from the standpoint of etiology, anatomy, and physiology based upon the classification adopted by the American Heart Association. After a physician has studied his heart cases thoroughly and made an etiologic, anatomic, and physiologic diagnosis, he should take time to explain the condition thoroughly to his patient, so that the latter may more intelligently guard his actions. Sir James Mackenzie had angina pectoris for twenty years. He ascertained his capacity for action, and lived much longer because he understood his condition. To the average lay person a soft systolic murmur at the apex is as grave a heart disease as heart block, unless the physician explains the condition carefully and intelligently. In the treatment of fibrillation, Dr. Stroud advocated the use of the digitalis leaf instead of the liquid preparations, the reason, of course, being that the powdered-leaf preparation is more stable than the tincture. Digitalis is a much more reliable drug in the treatment of auricular fibrillation than is quinidin.

A moving picture film on the action of the heart valves was shown.

H. B. Anderson, M.D., *Reporter.*

DELAWARE—MARCH

At the March meeting, Dr. Ross V. Patterson, dean of Jefferson Medical College, addressed the Society on "The Recognition and Treatment of Cardiac Affections."

In his introductory remarks, Dr. Patterson named sinus arhythmia, valvular disease, neurocirculatory asthenia, pregnancy complicated by valvular disease, syphilitic aortitis and myocarditis, aneurysms, women after menopause, men with precordial pain without valvular affection, and sclerotic changes of vessels as the everyday problems of the average practitioner, and pleaded for a painstaking study of these conditions, particularly the functional capacity of the heart.

The causes of cardiac conditions are: (1) chorea, 80 per cent of the cases showing cardiac impairment; (2) rheumatic fever, 50 per cent showing cardiac impairment (in this disease the intensity of the process bears no relation to the involvement of the cardiac structures); (3) recurrent tonsillitis; (4) acute infectious diseases; (5) syphilis; (6) focal infection; and (7) heredity. A careful anatomic study is necessary in all cardiac cases. Until recently, valvular affections have been overestimated, while myocardial affections have been underestimated and the pericardium has been overlooked. In the anatomic study, it is necessary to determine (1) the size of the heart, first by the ordinary methods, then by fluoroscopic and x-ray examination; (2) the integrity of the valves; (3) adhesions of the pericardium, looking especially for Broadbent's sign; (4) associated conditions of the arteries and kidneys; (5) the importance of myocardial changes.

The mechanical study of heart affections was outlined, as well as the identification of heart rhythm, under which was named: sinus arhythmia, especially in children, who are usually given deficient treatment; heart block, which is always a serious affection; branch bundle block, which can be determined only by instrumental aid; paroxysmal tachycardia, which occurs over long periods of life, but is never grave; and auricular flutter and fibrillation, which are of vast importance.

The importance of determining the functional capacity of the heart was stressed, because this is the basis for prognosis and treatment. Changes in the structure of the organ are of importance only as they affect its function. If there is no dyspnea, fatigue, pain, palpitation, or swelling, the function is good, and all that the patient requires is counsel and advice; but if these symptoms are present, the functional capacity of the heart is reduced. A compensated lesion is one in which no symptoms are produced by effort. Symptoms that are constant denote impaired compensation and require active treatment. The object of treatment is to conserve the power of a compensated heart; where there is heart failure, the object is to lessen the work and supply power. Digitalis does not supply power, but it aids in overcoming the irregularity and increases the tonicity of the heart muscle.

In the discussion by Drs. J. W. Wood, H. Gallager, and V. G. Janvier, the following information was requested: bedside tests for differentiating arhythmias; tests for measuring the functional capacity of heart muscle; and types of cardiac disease that result in death. Dr. Patterson replied that ninety per cent of the arhythmias can be differentiated at the bedside by the application of the cuff of a sphygmomanometer, counting the beats that come through at different levels of pressure. Extrasystoles tend to increase when the pulse rate is low and disappear when the rate is increased; they are seldom seen in rates above 100. In auricular fibrillation, the more rapid the heart rate, the more marked the irregularity. Pulsus alternans means impairment of the function of contractility, which is a sign of great value. High diastolic pressure usually indicates impending heart failure.

Among tests for measuring functional capacity, Dr. Patterson mentioned the hopping test and the weight-lifting test, but he does not consider these of much value. In his own cases, he questions the patient in regard to focal infection, looks for degenerative changes, determines the size of the heart and its defects, then measures the tension and tries to elicit the symptoms. If the patient has symptoms, he is on the verge of cardiac failure.

Cardiac disease is the leading cause of death due to earlier degenerative changes brought about by the present stress of life. The inflammatory cardiac conditions are lessening as a result of school inspection.

Dr. Patterson was made an honorary member of the society.

Albin R. Rozploch, M.D., *Reporter.*

ERIE—MARCH-APRIL

The March meeting, held in Erie, was featured by an address on the "Diagnosis of Certain Tumors," by Dr. C. A. Hamann, dean of the Medical School, Western Reserve University, Cleveland, Ohio. Some of the diagnostic features noted and dwelt upon by Dr. Hamann are herewith enumerated.

A cirsoid aneurysm pulsates, while in elephantiasis of the scalp there is no pulsation. It is tortuous and vascular, with danger of hemorrhage. Dermoid of the orbit has movable skin above it, and must be differentiated from a sebaceous cyst, while sarcoma of this location produces loss of vision, unilateral ophthalmos, and attending adenopathy. Many tumors of the parotid gland are of the mixed type. There is no pain or annoyance, but deformity due to involvement of the seventh nerve. If the tumor is benign, damage to this nerve should be avoided by sticking to the capsule of tumor; if malignant, paralysis will result, due to involvement of the facial nerve.

Neck tumors may be of the fatty type and extend down to the shoulder with no pain. The sublingual dermoid appears as a large lump under the chin, with no attending difficulty in respiration or swallowing. It grows upward and forward, and must be differentiated from a ranula. Melanosarcoma of the hard palate is rare and fatal. It usually occurs when there is excessive pigment in the skin. In epithelioma of the lip, the choice of treatment is extirpation rather than x-ray. A mass in the neck region may follow this operation. There are two groups, the ulcerative and the fungating. In cancerous glands of the neck, the origin may be found in cancer of the tonsil or soft palate. A small cancerous lesion in the pharynx may produce cancerous neck glands. Rarely does one see metastasis from a cancer of the esophagus to the shoulder. Skin epitheliomata result from early healed burns. They usually appear like warty ulcerations, beginning in small lumps in the burn scars. These ulcerate, necrosis setting in later. They progress slowly and glandular metastasis may be delayed for a year or more.

Serocystic tumors of the breast are of rapid growth and large, with no pain and no lymphatic involvement. They are partly cystic, and require breast amputation. The prognosis is hopeful. Of interest is the asymmetrical breast development in virgin girls at puberty with no pain or discomfort, firm but not attached, and with no gland extension. The large breast should be removed. Serous or bloody discharge from the nipple should put one on guard against malignancy. Paget's disease of the nipple ulcerates first and looks and acts like eczema. It requires radical amputation of the breast at once. The pathologic changes are in the ducts, and not in the skin as was always believed. Vacuolated cells are found. Inflammatory disease and carcinoma of the breast offer two similar conditions—dimpling of the skin with retraction.

Renal tumors, such as hypernephromata, always show a forward inclination, never bulging posteriorly. One tumor not seen early in its course is the embryoma of childhood. These patients all die later, even following operation. In the child, tumors in the abdomen are very often retroperitoneal tumors of the kidney.

Real bone-cell sarcomata never recover. There is some chance in the giant-cell type. Giant-cell carcinoma of the palm must be differentiated from lipoma, tuberculosis, gangrene, and xanthoma.

In closing the discussion, Dr. Hamann mentioned the terrible postoperative condition sometimes encountered —ulceration of the abdomen, wall, viscera, etc. This was explained as a possible streptococcic infection plus some other unidentified organism. The condition is fatal, and no treatment is effectual. The cause of pigment in melanomata is unexplainable. Retroperitoneal cysts are probably the remains of wolffian bodies. In breast amputation, both the pectoralis major and minor should be removed. Dr. Hamann tried the x-ray before and after operation, and found it wanting. Consequently, he does not employ it. When double Paget's disease exists, both breasts should be removed.

The April meeting of the Society served a twofold purpose in that a combined scientific and medical-legislative session was held. The largest attendance of the year was recorded, in addition to having the members of the executive committee of the Woman's Auxiliary as guests.

The society was particularly honored by the presence of the incumbent legislators at Harrisburg representing Erie County, and a satisfactory meeting resulted. The guests were not asked or urged to express any opinions in the matter of pending legislation in this State, but they were made fully acquainted with the attitude of the physicians in Erie County in regard to the damaging and coercive efforts of the cultists to lower the high standards of the medical profession. President B. Swain Putts ably presented the aim of the medical profession, while Dr. J. A. Stackhouse told of the attitude of the cultists towards the physicians and vice versa. Dr. James Strimple, of the public health committee, discussed the support of candidates for office by the medical profession, and Dr. Edward Drozeski spoke in regard to the demands of the cultists and gave a report concerning a public-health meeting in Harrisburg. Drs. George Reed and O. N. Chaffee told what they would do if they were laymen and in a position of influence, and outlined the effect on humanity if any detrimentel legislation were to be enacted.

While the county office holders were not obliged to make any remarks, all present did so and gave the physicians in attendance much information as to what has been done in the past and is being done to overthrow the Medical Practice Act. Those addressing the meeting were Mr. John King, of Corry, and Mr. Joseph Z. Zeisenheim, of Fairplain, representing the county districts, and Mr. Joseph Schilling, representing Erie. State Senator Miles B. Kitts was unable to be present, but his message was delivered by Dr. Edward Drozeski. The opponents of the aforementioned members of the Legislature in the present State election will be questioned as to their attitude toward medical legislation prior to election. Erie County physicians may feel assured that before any drastic legislation is enacted, Erie County representatives will consider the matter very carefully and intelligently. This was the first time that members of the Woman's Auxiliary were made acquainted with the subject, and they will use their best efforts to combat any measures contrary to sound medical views.

Dr. D. B. Martinez, of Pittsburgh, delivered an address upon his own research efforts in association with those of Dr. Harold A. Miller, Pittsburgh, on the use of "Liver Extract in the Toxemias of Pregnancy." Dr. Martinez outlined the use of the new discovery, heparmone, successfully employed in 230 preëclamptic cases and 38 actual cases of eclampsia. Details of this address will not be repeated, as a paper by Drs. Miller and Martinez on this subject has already appeared in the Journal.

The establishment of a part-pay clinic by the Erie General Dispensary, which now conducts a free clinic

in connection with the Associated Charities, is being considered by the Society, and will be acted upon at the May meeting.

The Auxiliary met on April 27th and was addressed by Dr. J. A. Stackhouse, who spoke on medical legislation. A big public meeting will be held on May 25, at which time Dr. Mary Riggs Noble, of the State Department of Health, will be the guest.

Norbert D. Gannon, M.D., *Reporter.*

LUZERNE—MARCH-APRIL

A regular meeting was held in the Medical Building, March 7th, with President M. B. Ahlborn in the chair. Dr. D. S. Kistler, of Wilkes-Barre, and Dr. Seth W. Kistler, of Nanticoke, were elected to membership. The essayist was Dr. Marjorie E. Reed, of Plymouth.

Dr. Reed: Diet as an Aid in the Treatment of Some Diseases.—G. H. Whipple and others have shown that in pernicious anemia there may be a scarcity of material from which the stroma of the red cells is formed, or that a disease of the stroma-forming cells of the bone marrow exists. Liver and kidneys rich in complete proteins may increase the formation of red cells by supplying material to the stroma. Many believe that pernicious anemia is due to intestinal bacterial toxemia. Whipple and others have shown that certain lipoids enhance hemolysis. Hence a decrease of fat in the diet has a favorable influence on the blood itself as well as decreasing or altering the intestinal flora. The Minot-Murphy diet is rich in iron and purine derivatives, and has a small amount of fat; hence, it increases the red cells and hemoglobin and lessens putrefaction in the intestines.

Others believe that pernicious anemia follows bacterial intoxication, toxins being absorbed only in those with achylia gastrica and an associated atrophy of the mucosa of the small intestine. Such atrophy results from underfeeding for months and years, especially of vitamins. The proponents of this theory feed a diet rich in vitamin A, as well as B and C. This is contrary to the Minot-Murphy diet.

A new diet in gastric ulcer has been proposed by Dr. Albert Andresen. For the first two days, after hemorrhage has stopped, he feeds a gelatine solution, then adds gruel, and gradually cereal, soft egg, and other bland foods. The stomach is never at rest, but is more at rest when partially filled than when empty. Gelatine is soothing, favors coagulation of the blood, and combines readily with gastric juice. In the jelly form it is easily swallowed, allays the intense thirst, and gives some nutrition. The time-honored treatment is that described by Sippy. Bassler has described a modification of the Sippy treatment.

In cardiorenal disease, Rarell devised a diet, allowing milk chiefly in the first week, 200 c.c. three times a day. From the eighth day on, other bland foods are gradually added. This diet reduces the metabolic rate, taxes the heart less, decreases edema because of low fluid intake, and frequently causes diuresis. Solid substances in the blood are increased. If this diet fails to decrease the edema, Epstein's diet may aid. It is high in protein. Albuminuria decreases the blood protein; so there is a decrease of osmotic pressure and the blood loses its power to remove fluids from the tissues. Here Epstein's high-protein diet is of use. In nephritis with hypertension, a low-calorie, salt-free, and low-protein diet is used. Protein foods cannot be completely eliminated, as the tissue protein would be used. At least two grams per kilogram of body weight must be given.

Dr. C. H. Miner: The discovery of the liver diet is probably the greatest advance in the practice of medicine in the last five years. Dr. Victor Heiser, who is a representative of the Rockefeller Foundation in the far East, spoke at Mont Alto of the work being done in Japan. He said that in Japanese laboratories they could produce calculi in the liver and gall bladder of animals by diet, and later, in a short time, remove them by diet. They could also produce ulcers and then cure them, or produce a condition resembling carcinoma. Dr. Heiser was much impressed by these experiments, and felt that the future of scientific medicine will depend on the application of principles of proper diet.

At the meeting held March 21st in the Medical Building, with President M. B. Ahlborn in the chair, resolutions of condolence in memory of the late Dr. Walter Lathrop of Hazleton were read.

The essayist was Dr. Edward A. Strecker, professor of nervous and mental diseases, Jefferson Medical College, Philadelphia, who spoke on "Psychoanalysis." Dr. Strecker outlined the technic and methods of psychoanalysis, discussing in detail a series of definitions describing the progressive steps of the examination and the pathologic mental states with which psychoanalysis deals. The first premise in the examination is a thorough and definite understanding of the amount of the fee to be paid. This is done before the seances commence. Psychoanalysis entails daily meetings between the analyst and the patient, and these meetings continue over a period of three to four months. A dangerous period to the analyst is that when the patient falls in love with him. This of course is followed in due time by the patient falling out of love. At no time are the thoughts of the patient directed by questions from the analyst. Dr. Strecker admitted that he did not himself practice psychoanalysis.

At the meeting of April 4th, Drs. E. R. Roderick and A. Desjardins of Wilkes-Barre were elected to membership.

Dr. Homer B. Wilcox, Kingston: Hematuria.—Unfortunately, hematuria, both microscopic and macroscopic, is too often painless and unaccompanied by other symptoms. Of the systemic causes, blood dyscrasia has been considered a possible factor in essential hematuria. Many cases of so-called essential hematuria have been treated very successfully at the Mayo Clinic by the intramuscular injection of the patient's own blood. Hematuria is not rare, and may be the only symptom in polycythemia vera. In purpura hemorrhagica there is often a history of excessive menstruation or of bleeding and bruising easily. Hematuria may be caused by scurvy, and has been noted in leukemia.

Of the lesions of structures immediately adjacent to the urinary tract causing hematuria, acute or recurrent appendicitis is one of the most common. As a rule, the hematuria which complicates appendicitis will disappear as soon as the appendix has been removed. In the majority of cases hematuria is the result of an acute or subacute glomerulonephritis from hematogenous infection.

Lesions of the genito-urinary tract are numerous. Polycystic kidneys may present themselves by a persistent hematuria. They show nitrogen retention, delayed function, and the peculiar "dragonlike" deformity in one or both pyelograms. Movable kidney may produce acute congestion by dropping and kinking the ureter. In cases in which pyogenic infection of the renal pelvis or ureter predominates, the most common change is the appearance of multiple minute nodules of an inflammatory character. Hydronephrosis,

angiomas of the renal pelvis, and focal infection all may produce hematuria. In nephritis there are few, if any, changes that point to the kidney as the source of the blood. In about one-fourth of the cases of hemorrhagic nephritis, the hematuria is either accompanied by pain or is preceded or followed by it. In renal tuberculosis, hematuria is always present at one time or another in the course of the disease. Tumor of the kidney, inflammation, and calculi constitute the three chief causes of hematuria. By ureteropyelography the diagnosis of neoplasm of the kidney and ureter has been made possible and reasonably certain before any change in the size or contour of the kidney may be palpated.

In the bladder, the commonest causes of hematuria are calculus, inflammation, and tumor. Others are blood dyscrasias, trauma, congestion, malformations, foreign bodies, tuberculosis, and syphilis. Blood which appears with the first jet of urine, the remainder of the urine remaining clear, must necessarily come from the urethra. If the blood is passed only at the end of micturition, it must necessarily come from either the bladder or prostatic urethra.

Lewis T. Buckman, M. D.
Reporter.

PHILADELPHIA
March 14, 1928

The president, Dr. I. P. Strittmatter, in the chair.

QUASI MEDICAL MEETING

The Status of a Physician as a Witness to a Will: Hon. Joseph F. Lamorelle, President Judge of the Orphans' Court (paper read by his son, Joseph A. Lamorelle, Esq.).—Under the early English law, communications to physicians were not privileged. This doctrine was laid down by Lord Chief Justice Mansfield in 1776 at the trial of the Duchess of Kingston for bigamy, and has ever been accepted by English judges. It would probably have been acknowledged as a common-law principle in every American court had not the Legislature of the State of New York in 1828 established a privilege for communications from patient to physician, and thereby set an example which was later followed by about half the states. In 1907, the Legislature of Pennsylvania amended its Act of Privilege to exclude civil cases brought by the patient for damages on account of personal injuries. By the "Doctrine of Waiver," however, the patient or his representative may waive his right to have the communication privileged.

When a physician is requested to act as a subscribing witness to a will, the maker of the will by implication requests him to bear testimony, if called upon, to all facts affecting the validity of the will, which amounts to a waiver. The principal circumstance affecting the validity of a will with which the physician oftenest has knowledge is the mental capacity of the maker; and the physician, acting as a subscribing witness, in effect states that the person making the will has testamentary capacity and is capable of making a will. Since the physician is ordinarily in a position to know the mental capacity of his patient, it will avail him nothing later to state that he did not know he was witnessing a will. Therefore, the physician should never witness a will if he entertains any doubt as to the patient's mental capacity.

What is testamentary capacity from a legal standpoint? Mr. Justice Walling, of the Supreme Court of Pennsylvania, said: "A person whose mind is perverted by insane delusions with reference to one or many subjects, however unreasonable or absurd, may nevertheless make a valid will provided the provisions of such will are not influenced by such delusions." Mr. Justice Simpson, of the Pennsylvania Supreme Court, said that a testator's "memory may be very imperfect; it may be greatly impaired by age or disease.....The question is not so much what was the degree of memory possessed as this—had he a disposing memory? Were his mind and memory sufficiently sound to enable him to know and to understand the business in which he was engaged at the time he executed the will?" In this same connection, Chief Justice von Moschzisker, of Pennsylvania, says: "If he appreciates in a general way who his relations are and what property he possesses, and indicates an intelligent understanding of the disposition he desires to make of it, he has testamentary capacity." Mr. Justice Kephart, of Pennsylvania, said essentially the same thing: "He may not have the strength and vigor of a man able to digest all the parts of a contract, yet he may be competent to distribute his property by will."

Since the physician may be called upon to prepare a will for a patient during a severe and possibly fatal illness, it may not be amiss to outline in a general way the provisions of our statutes which apply to the form and execution of wills. Section 2 of the Act of June 7, 1917, commonly known as the Wills Act, provides: "Every will shall be in writing and unless the person making the same shall be prevented by the extremity of his last illness, shall be signed by him at the end thereof, or by some person in his presence and by his express direction; and in all cases, shall be proved by the oaths or affirmations of two or more competent witnesses, otherwise such will shall be of no effect." If the patient is extremely illiterate or has no arms, or for other cause, Section 3 states: "If the testator be unable to sign his name for any reason other than the extremity of his last sickness, a will to which his name is subscribed in his presence, by his direction and authority, and to which he makes his mark or cross, unless unable to do so—in which case the mark or cross shall not be required—shall be as valid as though he had signed his name thereto; provided that such will shall be proved by the oaths or affirmations of two or more competent witnesses."

It may be that the patient is dying and there is not time for the preparation and execution of a will. It may be impossible for him to do otherwise than indicate verbally the disposition which he desires made of his property. In such cases the law provides for the probate of a "Noncupative Will" for the disposal of personal estate. The testator, in such cases, must be in his habitation or in the place where he has resided for the ten days prior to the making of such a will, except when surprised by illness when away from home; and if the value of the estate bequeathed is in excess of $100 it "shall be proved that the testator, at the time of pronouncing the bequest, did bid the persons present, or some of them, to bear witness that such was his will, or to that effect; and in all cases, the foregoing requisites shall be proved by two or more witnesses who were present at the making of such a will." Such a will must be immediately reduced to writing, in that no testimony will be received to prove such a will after six months from the speaking of the alleged testamentary words unless the testimony, or the substance thereof, was reduced to writing within six days after the making of such will.

While it is always advisable for a person to execute his will in the presence of two witnesses who shall sign as attesting witnesses at his request and in his presence, this is not necessary except in certain cases, as all that the law requires ordinarily is that the will be proved by the testimony of two or more competent witnesses. In the case of a will containing bequests to bodies politic or to any person in trust, for religious or charitable uses, the will must be executed in the presence of two disinterested witnesses who shall subscribe their names thereto, and the failure to comply with this provision renders the religious or charitable bequests void. It does not, however, affect the other parts of the will, except, of course, to increase the residuary estate by the value of the void bequest.

A Doctor in Court: Ralph B. Evans, Esq., Attorney for the Philadelphia County Medical Society.—Doctors as witnesses may be placed into two groups—those who do and those who don't; that is, those who make law a profession to the exclusion of their legitimate profession and those who will not go to court and are proud of it. The latter are the more troublesome. The importance of medical expert testimony has been much overestimated and in criminal cases it has become a public scandal, with discredit to both the medical and legal professions, as will be recalled in the cases of Leopold and Loeb, Remus, Rosier, etc. There should be some remedy for these criminal cases, and it lies clearly with the courts and legislatures. So long as the law recognizes insanity as an excuse for crime, so long will the medical profession testify to insanity. A reasonable limit must be set to the defense of insanity.

In civil cases, the problem is to get reliable testimony on medical facts. In Philadelphia, there are fifteen common pleas judges, ten of whom sit every week on jury cases. There are also municipal and district judges. Of all the cases tried, not less than seventy-five per cent are personal-injury or accident cases, mostly automobile cases. As excessive verdicts are given, insurance rates go up; so for their own benefit, at least, doctors should give honest medical testimony.

The following is a typical accident case: Two autos collide at an intersection and some one possibly is hurt and treated in a dispensary. Runners, mysteriously informed, appear in numbers to offer the victims the services of their respective law firms. The case is then referred to a doctor, and a bruise becomes an incapacity, and if the client is a woman, the uterus is invariably retroverted and the testimony will reveal that after the collision she suffered pains and bleeding. The medical expert is questioned, who says there is a retroversion of the uterus, and the cause was an accident. The only cure for the expert is to drive him out of business. The difficulty is that the doctor who attended the case will not come into court or, through carelessness, he testifies to what the lawyer told him, or gives false testimony. We must get the medical-fact testimony right.

The following is an interesting case: The plaintiff, a medical officer in the Navy, was in a slight collision wherein he was thrown against the car, striking but not fracturing his head. At the trial he looked desperately sick, but the Naval Hospital records could not be had. The officer in charge was subpenaed to bring the records, which revealed that he was suffering from acute Bright's disease.

In another case, a man and his wife, while riding in their car, met with an accident so trifling that the lady, after a dose of aromatics at a drug store, went to a matinee. After the play she went home, began to bleed, and had a miscarriage. The history given was that the wife had been well, had had two normal children, and no previous trouble. An expert testified that the miscarriage was due to the accident. Hospital records, however, showed that her two children had been delivered with forceps, that after the second the cervix had been amputated, and later she had become pregnant and aborted. When the expert heard this, he admitted the accident was not responsible for this abortion.

Expert medical testimony is not so important as honest facts, and to solve the problem of medical testimony, each doctor must do his job. Following are a few hints to prospective witnesses: (1) it is not an ordeal—coöperate; (2) bring your records; (3) the doctor is subject to a subpena, but is not obliged to give expert testimony; (4) try to use plain English; (5) do not get into an argument with the cross-examining lawyer; (6) be honest and nonpartisan.

Doctors in the Courts, With Special Reference to Their Attitude as Professional Witnesses in Gynecological Cases: John M. Fisher, M.D.—After allowing for juries, lawyers, rules of evidence, and legal technicalities, any unbiased attendant upon the courts will observe evil connivance of the family practitioner and medical experts. Because of the changing status of medicine and psychology, which have diametrically opposed convictions, enough has been learned to arouse suspicion of an extraprofessional interest. Such vicious methods now obtain that the number of damage suits is increased, and defendant companies and property owners settle out of court rather than stand jury trial, whether the claim be just or unjust, for in court the claim is seldom settled on its merits when the defendant is a corporation or property holder. The plaintiffs secure help on a contingent-fee basis, with a prearranged percentage. Although organized societies of both the legal and medical professions are making an effort to subdue this practice and check this professional debauchery, it persists.

What can a prosecutor do? is a question for the legal profession to solve. Our concern is with the members of our own fraternity, for a majority of doctors will not chance trial service, the average doctor being honest and preferring the estimable opinion of his associates. Lawyers in search of the truth often prefer the family physician, but a versatile attorney may place an honest man in an unenviable position by mazes of technicalities. A medical expert, by leaning to the side of the employing agency, may be restrained from the whole truth and, without questioning his sincerity, the psychologic influence of an anticipated reward becomes a determining factor. The reliable medical expert, professionally and legally, though invaluable to the courts, is rarely wanted in doubtful cases. Again, those too willing to testify soon become known.

The speaker is shocked by the lengths to which the professional experts will go to allege disease of pelvic organs resulting from light falls. The uterus has no fixed normal position, but maintains a mobile equilibrium, retroversion being commonly found in virgins as well as in ten to twenty per cent of all parous women, with or without symptoms. In all subinvolution, in muscular debility, and in pelvic lacerations, there is invariably retrodisplacement, and this is often found at the menopause. The speaker has never seen a single uterine prolapse or other displacement as a result of indirect violence, nor can pus tubes or inflammatory disease arise from such cause, though they can be stirred to activity by a slight accident. Fee splitting between the specialist and the family physician has led

to a commercialized professional debauchery, and just so the evil of contingent fees should be made impossible by bringing ignominy upon the misdoers. The judges should be chosen by a bar association rather than by the politicians, and the jurors should be drawn from the saner strata of the community. Contingent fees should be forbidden, and state-paid experts should be appointed by medical societies. Technicalities should be abandoned, and the judge should be eliminated from the rôle of umpire.

In discussion, Dr. D. J. McCarthy puts the blame for these corrupt practices upon both plaintiff and defendant. He believes that no leading member of the profession will refuse to tell the truth.

Dr. J. W. Bransfield said that though the newspapers comment most harshly on hospital cases, ambulance chasers and criminal testimony, and though the facts are well known by all, nothing is ever done. Let the court subpena the records and submit them to a committee of doctors paid by the court and keep the doctors out of court. A committee from the Medical Society, with a committee from the Bar Association, should form a commission to supplant expert testimony.

Dr. Hobart A. Hare reminded the audience that a jury trial is the old trial by conflict, wherein the person downed is pronounced guilty, with the verdict to the smart lawyer. The medical profession is not trained for such conflict, and, as the lamb between the bulls and the bears, the doctor gets skinned. Never let a lawyer cajole you into the statement that you are an expert and, beforehand, deliberately prepare questions with your attorney to expose things favorable and hide those unfavorable. Remember you have the right to qualify a "yes" or "no." Know the previous testimony in the case and avoid being an advocate, always remembering that above all are to be valued your opinion of yourself and your standing with your profession.

March 28, 1928

The president, Dr. I. P. Strittmatter, in the chair.

The Early Diagnosis of Pulmonary Tuberculosis

The Clinical Manifestations in Relation to the Early Diagnosis of Pulmonary Tuberculosis: Dr. Charles R. Austrian, Associate Professor of Clinical Medicine, Johns Hopkins University.—The recognition of tuberculosis requires the utmost skill, necessitating not only a knowledge of physical diagnosis and of normal and pathologic conditions, but also an ability to analyze the results of the examination. Is there a relation of cause and effect between the structural changes in the lungs and the associated symptoms? Abnormal signs may exist in one apparently well. Are they a residue of a previous disease, or heralds of an incapacity? Symptoms without signs require careful study and, since systemic changes may be the first to occur, narrow specialism is dangerous. Unexplained fever, a lowered reserve, a disturbed gastro-intestinal tract, or a disorder of menstruation will be interpreted by specialists each according to his hobby.

Early tuberculosis is hard to define, for it is not a chronologic disease, but rather a clinical one. We must know the pathologic changes caused by an invasion of tubercle bacilli and both local and systemic signs, for cases may be classified as those with symptoms, those with signs, and those with both. For the detection of this disease, no single procedure is so helpful as a careful record. The history may show exposure in the home—an important source of infection—or the patient may report hemoptysis, or exhibit a pleurisy with effusion, or run an unstable daily temperature, or suffer a vasomotor liability or lessened endurance, or display an increased pulse or loss of weight. Chills, sweats, lack of pain, cough, and menstrual disturbances are characteristic. The pathfinder among subjective disturbances is easy fatigue, and a history of frequent respiratory affections is important. Vague, ill-defined, and recurring gastro-intestinal symptoms are common in tuberculosis, and an anal fistula is often associated with tuberculosis of the lungs. Undernutrition, causeless loss of weight, and failure to gain under proper measures should arouse suspicion.

The patient comes to the doctor for an indisposition, and since a correct diagnosis can be reached only after a proper elimination of other conditions, the examination *should not be hurried.* Since it is the general practitioner who first sees the patient, the problem is in his hands, not in those of the specialist. Not only should the chest, upper respiratory system, and circulation be examined, but the whole body as well. For a chest examination the patient *must be stripped,* so that by inspection the physician may detect a localized retraction, a lagging, or a decreased expansion of the upper thorax. The use of percussion varies with the skill and tactile acuity of the observer, and is influenced by the patient's posture and chest wall. Auscultation may reveal prolonged expiration and elevated pitch, but the most common sign is a shower of moist râles heard at the apex or above the spine of the scapula, especially after a preinspiratory cough. It is not the type of râle that is pathognomonic, but its persistence and site. A decreased resonance and a changed respiratory murmur may be the only signs of an active process.

Many foci of pulmonary disease were overlooked before the use of the x-ray and while, in the first enthusiasm, the value of the roentgenogram was overestimated, it is now known to be an aid, as a control of other data, in locating the outline and extent of the disease, in discovering a masked or unlocated focus, and as a graphic method of following the progress of the case. No thoracic case is complete without an x-ray, but the chief reliance must be placed upon symptoms and physical findings. Though the roentgenographic appearance of the youngest tubercle is not known, an increased marginal haziness of shadows, an increased density, indicate clinical retrogression. Inactive processes, on the other hand, exhibit sharply demarcated, dense shadows.

In summary, the recognition of early phthisis calls for a correlation of symptoms and a complete examination; and where the process of exclusion may be the only possibility for diagnosis, bacteriologic, serologic, and roentgenographic examinations will be invaluable accessory diagnostic criteria.

The Laboratory Findings in Relation to the Early Diagnosis of Pulmonary Tuberculosis: Dr. Allen K. Krause, Associate Professor of Medicine of Johns Hopkins University, and Editor of the American Review of Tuberculosis.—With a broadening experience, the laboratory man is impressed by the limitations of his part in the diagnosis of tuberculosis, though some time ago his word was thought unequivocal. Trudo was said to have been able to diagnose tuberculosis from the sputum (really a differentiation of bronchitis), and with the discovery of tuberculin there resulted wholesale tuberculin testing and phthisiophobia, with an urge for early diagnosis. The sleuthing clinicians, however, soon began to find impairments in the tuberculin findings, and in 1900, Flint, by suggesting

crepitant râles, started a clinical enthusiasm that found crackling apices in specimens of abounding health.

It was Naegele and Burkhart who proclaimed the universality of tuberculosis, the disease existing either as active or inactive. Since exhorters warned us not to wait for tubercle bacilli in the sputum, the clinicians appealed to the laboratory, with a resulting production of alleged successes—agglutinins, antigens, antibodies, serum, precipitins, and lysins. Today we are still seeking a blood test which will detect tuberculosis and nothing else. Pirquet brought forward a new, easy test designed to distinguish active from inactive cases and, as a consequence, healthy individuals began turning up at sanatoria. The search of the sputum and the tuberculin test are all right when properly used, but no laboratory procedure can at present carry the whole load of a positive diagnosis of tuberculosis—not even the presence of tubercle bacilli in the sputum, for this finding may signify only a tuberculous infection in an inactive case, judged by functional standards. However, the sputum examination is of greatest importance, in that it makes absolute a presumptive or probable diagnosis, and repeated sputum examinations should be made in suspected cases. The throats of babies and the feces should be more often studied. Care is essential in the collection of sputum, and the patient should be told where the sputum comes from, when it is raised, and the kind of container to use. It is characteristic of tuberculosis that the sputum at first is present only in the morning, in small amount and purely mucoid, with flecks of yellow which are pus, with or without bacilli. It is in this pus that the germs should be sought.

Bronchiectasis and bronchitis must be differentiated. The urine in tuberculosis is water-clear, a filmy coagulum forming on standing. In hemoptysis the blood should be searched for the organism. Though Osler says that one bacillus makes the diagnosis, where there is one, more will be found, and a diagnosis should never be made until they are. The second main agent of laboratory testing is the tuberculin reaction. This test is simple, provokes slight discomfort, and every affected man or animal will react. Usually, the intensity of the reaction indicates the recent activity. Tuberculin serves as the antithesis of the finding of tubercle bacilli, for, if negative, it rules out the disease.

Since 1900 the mortality from tuberculosis has been cut in three, there is less advanced disease, and seven hundred sanatoria have replaced thirty-two. In routine practice, on the first meeting with the patient for diagnosis, the skin test, sputum examination, an x-ray should be arranged for. In obscure cases, diagnosis must be made by exclusion. While the blood count does not reveal the actual presence of tuberculosis, it is a differentiating aid. A blood culture, a Widal, and a Wassermann may be needed. Other possibilities must become improbabilities. All other laboratory tests are unreliable; none is so telling or so uniform as the search for the germs and the skin test. The laboratory furnishes only diagnostic aid, to be correlated with the anamnesis, physical examination, x-ray, etc.

In discussion, Dr. H. R. M. Landis said that exclusive reliance on any one method of recognition of the disease is precarious, and while often the onset is insidious, we have in hemoptysis, idiopathic pleurisy, and fistula in ano valuable prodromal symptoms. There is no need for an expert to diagnose tuberculosis if the practitioner is alert to the possibility. When above the third costal cartilage, the process must be proved to be *not* tuberculosis; when below that level, it must be proved to be tuberculosis.

Dr. E. J. G. Beardsley stated that Dr. Austrian's paper was the best brief discussion of clinical tuberculosis he had heard. He stressed the importance of having the patient stripped for examination and of taking a careful history. The young physician must spend more time on normal chests. He quoted Dr. DaCosta as having said that "a specialist is one who knows more and more about less and less." It is well for the laboratory to know the clinical side, and vice versa.

Dr. Parke said that the following must be differentiated from tuberculosis: bronchopneumonia, aortitis, subdiaphragmatic abscess, empyema, typhoid fever, and whooping cough. The patient must be stripped for examination.

Mary A. Hipple, M.D., *Reporter.*

SCHUYLKILL—APRIL

April 3d was a real field day in the history of the Schuylkill County Medical Society. This organization held a legislative meeting at Pottsville on that date. Candidates for election to the Legislature appeared in person in response to the secretary's invitation. Seventy-six doctors set aside their afternoon activities and answered to their names at roll call. In addition, a goodly number of hospital trustees were on hand to hear first, Dr. Paul R. Correll, of Easton, outline the aims and objectives of organized medicine, and give our position on matters of medical legislation to the assembled physicians and guests. He was followed by President A. C. Morgan, of Philadelphia.

At the conclusion of these addresses every candidate in the room promised, if elected or reëlected, to vote and work for the elevation rather than the tearing down of the safeguards in the matter of the practice of the healing art in this Commonwealth.

This meeting was the most successful of its kind ever held by the Schuylkill County Medical Society.

A. B. Fleming, M.D., *Secretary.*

WARREN—APRIL

The April meeting was held on the 16th, at the State Hospital, with twenty-two members and three visitors present. Dr. T. P. Treadway, of Erie, gave a summary of the knowledge on "Allergic Diseases," laying special stress on the importance of tracing out the cause when there is a history of heredity in such diseases as asthma, urticaria, eczema, etc. He suggested that attacks of epilepsy and acute inflammatory rheumatism may be allergic in their nature. Recurrent eye ulcers have cleared up by treatment directed against some irritating protein. It may require considerable shrewdness and detective ability to discover the source of hypersensitiveness in some of these cases with vague symptoms, but it is at least worth a trial when the symptoms fail to respond to ordinary treatment. Some cases of hypotension may have an allergic cause.

Dr. Hamblin C. Eaton, of the State Hospital Staff, exhibited (1) a specimen of a ruptured heart wall (left ventricle) of a man who died suddenly, who also showed atrophy of the left cerebellum and had epilepsy during life; (2) a specimen of a large tumor of the pituitary body in a girl twenty-one years of age, who

died of pneumonia and who had exhibited during life symptoms of acromegaly and had been blind for seven years, nystagmus being quite marked. The tumor had been diagnosed, but had been considered inoperable. Dr. H. W. Mitchell, district councilor, spoke on the legislative policy of the State Society, and urged all members to obtain signatures to a petition put out by the Society. Supper was served by the State Hospital Staff.

M. V. Ball, M.D., *Reporter.*

WESTMORELAND—MARCH

The regular meeting was held on March 20th, with Dr. S. W. Nealon presiding. Arrangements were completed for the annual clinic to be held in the armory at Greensburg on April 27th, with the following program: Surgical cases to be presented by Dr. William Mayo, Rochester, Minn., and Dr. John B. Deaver, Philadelphia; medical cases by Dr. Harlow Brooks, New York City, and Dr. A. C. Morgan, Philadelphia, president of the State Society.

Dr. C. W. McKee, Greensburg, Pa.: Medical Fees.—Physicians are the servants of God and the people, and to attempt to formulate a fee bill regulating the charge made for services rendered should never be considered. The physician in charge should have *carte blanche* in this respect. While it is understood by all physicians that financial gain is not to be expected, a financial status must be maintained in order that they may not be hampered in their life work. Their income must be sufficient to support a family, educate their children, and maintain a social standing befitting their station in life. When a physician gives the impression that he is a cheap doctor, he weakens his professional efficiency by failing to command the fine coöperation which he must have in his task of saving lives, relieving suffering, and adding years to life. The high cost of illness is to be attributed to the developments which have placed more expert knowledge, methods, and instruments in every up-to-date medical office. It is universally agreed that in proportion to the time spent in preparation and the money invested, the physician of today is receiving very little more than did his predecessor of fifty years ago. The worker is entitled to his wage. Physicians have a right to demand fees commensurate with the service rendered, remembering always that of those to whom little has been given, little is required; while of those to whom much has been given, more is required.

Dr. L. J. Reese, Bolivar, Pa.: A Case of Blindness from an Unusual Cause, Developing Suddenly in a Child.—The right eye of Florence F., aged seven, was found by the school medical inspector to be amaurotic, with vision in the left eye 20/20. Her previous medical history was negative, as were the general physical examination and blood and spinal-fluid Wassermann tests on herself and other members of the family. The x-ray showed an encysted permanent superior right incisor. Her vision failed rapidly, involving both eyes, and at the end of the second week following the school inspector's report, she had to be led about. The ophthalmologist's diagnosis was retrobulbar neuritis, most marked in the right eye.

The dental cyst was curetted, and within a day the child's vision began to improve. She was put on ascending doses of potassium iodid and small doses of bichlorid, and diaphoresis was induced daily for three weeks, then reduced to every other day and gradually to twice a week, then once a week for three months. At the end of the first month, sinusoidal galvanism was instituted, and continued for three months.

Vision improved rapidly, and at the end of eight months was 20/200 in the right eye and 20/20 in the left eye. At the present time, five years after the onset, the ophthalmoscopic picture is to all intents and purposes normal.

Dr. H. W. Day, Monessen, Pa.: Impressions of a Medical School Inspector.—Our county societies should "adopt the child," and give it our best care and guardianship as a profession. The subject of the inspection of schools should have a place on our annual programs, preferably at the September meeting. The inspection should be rotated among the ethical physicians of the district, and the profession should be qualified and prepared to render service that will redound to the credit and benefit of the public whom we serve.

Dr. Howard J. Thomas, Export, Pa.: Paroxysmal Tachycardia.—This disease is rare in children and most common in young male adults otherwise healthy. It is seldom associated with heart lesions, but when these exist the paroxysms are usually more severe. It may be induced by indigestion, constipation, dilatation of the stomach, emotion, intoxication, muscular effort, etc. The rate of the pulse ranges from 120 to 180 and may reach 200. The onset and cessation are both sudden.

In four recent cases observed, three were American males aged 20, 25, and 35 years, and one was a Polish female aged 21 years. None of these patients had organic heart disease. Three had gastro-intestinal trouble. All made good recoveries. The prognosis is good in uncomplicated cases. There is no specific treatment.

C. C. Baldwin, M.D., *Reporter.*

YORK—APRIL

The April meeting of the Society was held on the 5th in the Professional Building, with Dr. O. A. Delle, the president, in the chair. Dr. Thomas R. Boggs, of Baltimore, Md., spoke on "Pernicious Anemia."

He stated that in pernicious anemia there are nearly always three cardinal symptoms: (1) achlorhydria, present in 100 per cent of cases; (2) typical blood changes, present in 90 per cent; and (3) central-nervous-system changes, present in 50 to 70 per cent. The chief subjective symptoms are weakness, dyspepsia, glossitis, diarrhea, numbness, formication, and difficulty in walking. Spontaneous remissions are very characteristic. In the differential diagnosis, carcinoma, lues, sprue, tapeworm anemia, and hemolytic anemia of pregnancy must be considered.

The treatment consists mainly of the removal of all infective foci, the administration of large doses of hydrochloric acid, and, most important, the maintenance of a liver diet, as elaborated by Minot and Murphy. This consists of a 2,500-calorie diet, containing 150 to 200 grams of liver, with little fat and a moderate amount of sugar. The commercial liver extract can be substituted for the liver. Five doses of the extract should be given daily until the blood is normal, and then three doses daily. The changes in the spinal cord are not affected by the liver diet. Liver has little value in secondary anemia, but in some cases the administration of liver with large doses of iron (90 grains daily of Blaud's mass) has produced remarkable results. Sprue and pellagra are benefited by liver feeding.

Milton H. Cohen, M.D., *Reporter.*

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

Mrs. E. Kirby Lawson, *Editor*
2533 Walnut Street, Harrisburg, Pa.

WHAT ACHIEVEMENT PARENTHOOD

MRS. DAVID B. LUDWIG
PITTSBURGH, PA.

As I stood watching a new-made mother holding in her arms for the first time her child, seeing her face light with the joy and wonder of possession, there dawned in my soul the questions: What are we, who hold in our beings the destiny of the future, doing about that future? How far and to what extent will the things that we do, the beings that we are, influence the thoughts and actions of those who come after us? To what end do we carry on that "physical immortality" of which Michael P. Guyer speaks in his book "On Being Better Born"? Where does the influence of heredity cease, and environment take its place? When does mind step into the world of matter as a living, thinking, reasoning force? All these questions lie back of each little helpless being who takes its place in the world, to bear a responsibility or to become one.

The first question that any mother asks is "What is it?" And then in the same breath, "Is he all right?" The desire to breed physically perfect children is instinctive—a desire which possibly has come down to us from some forgotten age, when the physically unfit were disposed of at birth by the mother who went alone into the jungle to bear her young.

So long as physical force ruled the universe, so long were the puny and the weak put out of the way legitimately. So long as survival depended upon strength alone, so long as the acquisition of food depended upon the strength of the arm which dealt the death blow to its prey, so long was there justice in the elimination of the physically unfit. But when, with the emergence of man from animal condition, came the beginning of human intelligence, we find the initial cunning not so often in the fit as in the physically unfit. What the strong carried in his muscular development, his weaker brother was forced to cultivate in hitherto little-used tissue. Survival, to the weaker man, meant development of thought and of cunning, the beginning of a mind, the multiplication of brain cells.

Biology would teach us that all characteristics in the human are but a combination of certain groups of chromosomes; that in the most primitive man existed the character-forming genes which, combined through endless ages, have produced the inventive genius of Edison, the courage of Lindbergh, the business brain of Henry Ford. "We are," says Albert E. Wiggam, in his *Fruit of the Family Tree,* "but a happy or an unhappy combination of chromosomes." Our behavior depends not so much upon what our environment has been as upon the chromosomes which existed unattached and unrelated in the bodies of our parents, waiting to unite and form in us those characteristics which go to make of us a success in life or a failure.

Taking the viewpoint of biology wholly and without reservation, few of us indeed would dare go knowingly and willingly into the creation of a child. But behind all biology, behind all science, behind all knowledge, lies Love, God's plan for the propagation of the human species.

We know a man who, had he been born during the age of Greek worship of physical perfection, would have been put to death immediately because of a terrible deformity, but with a mentality so brillant, an intellectuality so pure that, were all minds of like caliber born in bodies so deformed, thinking womanhood would dare give her body only for the propagation of such as this.

After all, who is to judge between the fit and the unfit? How many times do we see genius rise from mediocrity? How often do we see the progeny of brilliant men lost in the mass of averageness? What these would have done in different environment we can but guess. We have known an adopted child to run true to parentage, and we have known another to develop so consistently the characteristics of the foster parents that the bugbear of heredity seemed laid for all time.

Biology would place heredity not first but supreme. Even the good housekeeper is born, not made. Biology would place the physically unfit, the morally unfit, in a position where reproduction is impossible. Biology would sterilize those who carry within their bodies the potential power to breed insanity or idiocy. And biology would ask of law and of medicine the power and the ability to do these things. Here is an authentic family history. The father, not overly strong and lazy, was content to struggle along, providing food and lodging for himself and family through the efforts of his children on a poor and overworked farm. The mother, worn out, died at the birth of the eighth child. The first three children were normal, the fourth was a poet, the fifth was feeble-minded, the sixth and seventh were normal, and the eighth died at birth. But two of these children lived to repro-

duce, the sixth and the seventh. From one of these came an eminent lawyer, from the other a writer. Biology would have sterilized the mother of those children after the birth of the feeble-minded child, would have prevented the birth of two worth-while citizens.

Granting that all depends on heredity, what is to be done with the offspring of parents who have bred in the same family genius, mediocrity, and idiocy? Should the decision rest with the state or with the individual? Does the satisfaction of having given to the future one who will be of real service to humanity compensate for the sorrow of knowing that one has bred that which is imperfect? Does the value of an able mind outweigh the debt of deficiency? Should the progeny of such parents be permitted to risk marriage and propagation? What chance of success, of usefulness, have the descendants of those children? Is the chance of producing one genius worth the pain of childbirth, the sacrifice of time, the work of supporting and training, the possibility of disappointments because of deficiencies? These are questions which parenthood is asked to answer. Can parenthood truthfully and unfalteringly answer "Yes"? "Yes" is the answer of each mother who goes trustingly into the unknown to bring forth a child. "Yes" is the answer of the father who goes each morning into the world to wrest therefrom a living for himself and his family. "Yes" is the answer to all the world by parents who, looking fearlessly into the future, trusting in the fitness of an eternity planned by God, bear in their hands the gifts of their union hopefully and unafraid.

There is within each of us, dormant yet subconsciously felt, the desire to reproduce our own image. Love calls to that desire in the mating of the species. Love stays with that union in the feeling of parent for child. But love of mate and love of child is a comparative thing, depending on the individual capacity for strong emotion. The fiercely maternal type of individual is not a rarity, and wears itself out not so often in the bearing of children as in suppressed and unfulfilled desire.

Virility in any emotion, in any desire, is productive of strength in the end. Who can say that the courageous, unrestrained love which made of Nancy Hanks an illegitimate child did not flow through the lines of that immortal proclamation which started a war and freed the slave. Love does not develop from weakness but from strength. The life which develops from a strong love, from a strong passion, is inevitably bound to carry within it possibilities for greater character, greater ability.

Who, then, shall be the parent of the future? Is it for us to say "this one shall breed, this one shall not"? Is it for us to say "this line shall not go on"? Have we the right to prevent the future birth of a Michael Angelo because of a past insanity? Think back, you who stand in the place of God, you who would plan the future of the race, "For the sins of the fathers shall be visited upon the children unto the third and fourth generation." Do you not think that the God who planned a universe and brought it into being is able to provide a means for elimination?

After all, there are more good people than bad in the world, there are more fit than unfit, there are more capable than incapable, there are more intelligent (potentially at least) than unintelligent. The man who repairs a machine, the man who drives a motor-truck may possibly carry within his being the gene of a mechanical genius. Who shall say because he cannot properly support and educate a child that he has not the right to bring him into existence? And is not the giving of one superior descendant sufficient reward for the suffering, the disappointments, the trials, and the disillusionment of life?

We can not all breed genius, we can not all breed superior, but if we breed true and follow up with the giving of our best to those whom we have brought into the world, and to those with whom we are associated, that our progeny and the progeny of those less fortunate may be benefited, can we not say truthfully that after all, parenthood is the real achievement of any age?

AN OUTLINE OF THE LEGISLATIVE SITUATION

The practice of medicine in Pennsylvania has been regulated since 1911 by one of the best laws of its kind in the country. Our Legislature enacted a law in 1913 providing for the licensing of drugless healers of any school. These laws established educational requirements of proper standards to assure safe and competent practitioners to care for the sick and injured in this Commonwealth. The inefficiency of these laws lies in lack of enforcement. As a result, Pennsylvania is today served by about 12,000 physicians and drugless therapists whose qualifications average relatively high and about 1,000 unlicensed practitioners whose inadequate training makes them a menace to the community.

The unlicensed practitioner has sought recognition at past sessions of the Legislature, presenting numerous bills proposing to open a short cut on "the royal road to learning." At the close of the last session of the Legislature Governor

John S. Fisher, as authorized by legislative enactment, appointed a commission to study the subject of medical legislation. This body is known as the Freeman Commission.

The Freeman Commission has held public hearings in Philadelphia and Pittsburgh. The proposals made to it by the unlicensed practitioners were so radical as to jeopardize the health of the public in this State. The Committee on Public Health Legislation and officers of the State Medical Society sensed the viciousness of these demands. A joint conference was held between these agencies, the Pennsylvania Hospital Association, and the Homeopathic and Eclectic Societies. This conference outlined a plan of campaign. Petitions were prepared setting forth the menace, and spread throughout the State, and thousands of signers have expressed their opinions thereby that the standards must not be lowered. The joint conference also prepared a questionnaire which has been presented to all candidates for the General Assembly. Many have signed this, expressing approval of the stand taken by the conference.

The managers of Pennsylvania hospitals have been unanimous in supporting the program for safe and efficient care of the sick.

The result of this activity on the primary elections will be known before this number of the Journal reaches its readers. Publicity and political activity must continue without interruption, however, until the November election. In this way alone can we render a service which will provide safe and competent treatment of the sick during the coming years in this Commonwealth.

Especial attention is called to the articles published in the "Officers' Department" and under "Medicolegal and Legislative Notes," elsewhere in this number of the Journal.

COUNTY AUXILIARY REPORTS

ALLEGHENY

A Japanese tea was held on Easter Monday in the reception room of the William Penn Hotel, Pittsburgh. The tallies were Japanese, as were the prizes, the tea, and the cakes. This was purely a social event and was attended by the families of the physicians of Allegheny County. The annual meeting will be held on May 29th.

CAMBRIA

Mrs. C. M. Harris, Johnstown, president, reports a membership of eighty-four, and regular meetings the second Thursday of each month. The *Hygeia* committee is working very hard for subscriptions, and is hoping to secure one of the prizes offered by the American Medical Association. Plans are being made to raise money for the Medical Benevolence Fund of the State Society. Mrs. Charles H. Smith, State president, attended a dinner given by the Auxiliary in February at which fifty of the members were present.

CLEARFIELD

This Auxiliary has been organized only about a year and a half, and meetings are held every three or four months. Officers are elected in October, and the annual luncheon and meeting is held in April. The membership numbers thirty-four. Mrs. George D. Fussell, of Clearfield, is president.

ERIE

The April meeting was held in the Public Library, Erie, on the afternoon of April 27th, at which time Dr. J. A. Stackhouse, secretary of the Erie County Medical Society, made an address on the present legislative policies and the attempts of the cultists to override the physicians of Pennsylvania.

Mrs. T. M. M. Flynn gave a review of the current issue of *Hygeia*. The Auxiliary will open a campaign to place *Hygeia* on every waiting-room table in Erie County, and indications are that the proposition will go over one hundred per cent. Mrs. Frank B. Krimmel is in charge of the campaign, assisted by Mrs. T. M. M. Flynn, Mrs. I. E. Fisher, Mrs. George S. Durbin, Mrs. H. A. Ghering, Mrs. John H. E. Fust, and Mrs. R. W. Thompson.

The newly elected president, Mrs. G. M. Studebaker, is working hard to put across the Erie County Auxiliary, and is meeting with splendid success. She plans a large public-health meeting in May. Around her she has gathered a most capable group of committee heads, as follows: legislative, Mrs. A. H. Roth; program, Mrs. Ford Eastman; membership, Mrs. O. N. Chaffee; public health, Mrs. Elmer Hess; hospitality, Mrs. C. H. McCallum; finance, Mrs. John Ackerman; constitution and by-laws, Mrs. J. A. Stackhouse; publicity, Mrs. Norbert D. Gannon.

The March meeting was largely attended, and Dr. Katherine Law Wright presented the subject of tuberculosis as it exists in Erie County. The erection of a new tuberculosis hospital was stressed, a promise having been given for this new addition to Erie's hospitals.

FAYETTE

At the monthly meeting on March 1st, action was taken on the payment of State Auxiliary dues. The benefit card party held on February 16th netted $372.50, of which $250 will be sent to the Medical Benevolence Fund. On Thursday afternoon, April 5th, an open meeting was held in the ballroom of the White Swan Hotel to which the public was invited. Cancer was the subject under discussion. Dr. H. J. Bell gave a short talk on the menace to public health presented by the legislative demands of the chiropractors' association.

GREENE

Regular meetings are held the second Tuesday of the month in Waynesburg. The Auxiliary will confine its efforts, at least for a year, to the Greene County Memorial Hospital which is to be built in about two years. The annual meeting was held in April, with the State Auxiliary president, Mrs. Charles H. Smith, as the speaker. Officers were elected as follows: president, Mrs. R. E. Brock; first vice-president, Mrs. S. T. Williams; second vice-president, Mrs. F. C. Stahlman; secretary, Mrs. W. B. Glendenning; corresponding secretary, Mrs. T. L. Blair; treasurer, Mrs. H. C. Scott.

LACKAWANNA

Mrs. M. I. Pentecost has been appointed councilor of the third district, which includes eight counties of northeastern Pennsylvania. Lackawanna, Carbon, Northampton, and Lehigh have been organized for some time, and it is hoped that in the near future Wayne, Pike, Monroe, and Luzerne will become active. Mrs. Harry Goodfriend is chairman of the health program for May Day, and has made extensive preparations for it in every section of Scranton. Mrs. M. A. Gibbons is directing the campaign for *Hygeia* subscriptions in the county. Last year Lackawanna County obtained the third highest number of subscriptions in the State, thereby winning a ten-dollar gold piece.

LANCASTER

The reorganization of the Lancaster Auxiliary took place on March 27th, with the assistance of the State Auxiliary president, Mrs. Charles H. Smith, of Uniontown, together with Mrs. E. B. Marshall, president, and Mrs. J. D. Kerr, secretary of Lebanon County Auxiliary. Fifteen members were present, and the following officers were elected: president, Mrs. T. B. Appel; vice-president, Mrs. George W. Stoler; secretary, Mrs. Robert D. Swab; treasurer, Mrs. E. Kerney Smith. Meetings will be held the first Wednesday of each month at the same time as the Medical Club.

LEHIGH

The annual meeting was held on January 17th at the Hotel Traylor, Allentowr Following the annual reports, the newly elected president, Mrs. Wiliam J. Hertz, gave a very encouraging outline of plans for the year. On February 28th, the Wavs and Means Committee gave a social at the Hotel Traylor for the members and guests. A delightful afternoon was spent playing cards, followed by a luncheon. On the evening of March 27th, the Auxiliary sponsored a recital by Mr. John Mealey, baritone, and Miss Flavilla Ritter, pianist, both of Allentown. Mr. Mealey appeared last season in every large city in the country as Francois Villon in "The Vagabond King." Miss Ritter is an accomplished pianist. Mr. Homer Nearing was the accompanist. The recital was given in the High School auditorium, with an attendance of about a thousand. The proceeds will be used for various purposes, one of which will be the Medical Benevolence Fund.

LYCOMING

At the luncheon meeting held on March 9th, Mrs. W. S. Brenholtz, the first vice-president, presided in the absence of the president, Mrs. A. F. Hardt. Three new members were proposed and accepted. The chairman of the membership committee is planning an intensive drive for members. Tentative plans were made for a supper dance. The president and a selected committee are busy collecting antiques for a sale, the proceeds of both the sale and a dance to be given to the various benevolences in which the Auxiliary is interested. Announcement was made that one of the members, Mrs. Edward Lyon, had consented to become organizer for this district.

NORTHAMPTON

At a luncheon held on March 28th at the Promfert Club in Easton, the annual election of officers took place. The following were selected: president, Mrs. Frederick C. Roberts, Easton; vice-president, Mrs. S. G. Beck, Nazareth; secretary, Mrs. Miller A. Sanders, Bangor; treasurer, Mrs. George A. Petrulias, Bethlehem. Following the business meeting, the members played bridge.

NORTHUMBERLAND

Mrs. G. W. Reese, Shamokin, reports that this county is inactive.

WESTMORELAND

A bridge luncheon, followed by a business session, was held at the Elks' Club, Greensburg, on March 13th. A contribution of $150 was made to the Medical Benevolence Fund. The treasurer's report was as follows: Balance in treasury March 1, 1927—$26.26. Receipts during 1927—$475.21. Disbursements during the year—$262.87. Balance March 1, 1928—$238.60. The annual election of officers resulted as follows: president, Mrs. H. A. McMurray; vice-president, Mrs. C. D. Ambrose; secretary, Mrs. C. P. Snyder; treasurer, Mrs. C. A. Goble; directors, Mrs. A. R. Megahan, Mrs. J. E. Sunder, and Mrs. T W. Moran.

The committees appointed were as follows: *Program*—Mrs. C. F. Peirce, Mrs. Hugh B. Barclay, Mrs. L. M. Sankey, Mrs. S. W. Nealon. *Hospitality*—Mrs J. H. Fiscus, Mrs. P. G. McKelvey, Mrs. I. M. Portzer, Mrs. C. E. Snyder. *Public Health*—Mrs. W. J. Walker, Mrs. T. W. Moran, Mrs. C. W. McKee, Mrs. William H. Robinson. *Membership*—Mrs. J. S. Silvis, Mrs. W. T. Doncaster, Mrs. L. L. Blackburn, Mrs. L. F. Wilson. *Legislative*—Mrs. J. C. Brisbine, Mrs. C. C. Crouse, Mrs. P. S. Pile, Mrs. W. H. Taylor. *Flowers*—Mrs. William Errett, Mrs. T. P. Cole. *Reporter*—Mrs. H. B. Hamman.

A banquet was held at the Elks' Club, Greensburg, on Friday, April 27th, with the following as guests: Mrs. Charles H. Smith, Uniontown, president of the State Auxiliary; Mrs. W. H. Mayo, Rochester, Minn.; and Mrs. J. I. Johnston, Pittsburgh.

ACTIVITIES OF OTHER STATE AUXILIARIES

West Virginia—The Woman's Auxiliary of Fairmont is considering putting on a historical exhibit at the annual meeting of the West Virginia State Medical Association to be held at Fairmont May 21st to 24th. Mrs. S. B. Preston, of Charleston, the State president, hopes to secure the coöperation of the State Department of Archives and History. If the Department is willing to allow the Auxiliary to use some of its relics of the early practice of medicine in West Virginia, the exhibit will be undertaken.

Michigan—A State Auxiliary was organized recently at Mackinac, and the following officers were elected: president, Mrs. Guy Lincoln Kiefer, Lansing; vice-president, Mrs. W. K. West, Painesdale; secretary, Mrs. Earl McIntyre, Lansing.

New Jersey—During February, at a special meeting of the Morris County Medical Society, provision was made for the organization of a woman's auxiliary to that society. Only one county medical society in the State remains to be convinced of the importance of this movement, and it is earnestly hoped that by the time the State Medical Society meets in June every county will be organized.

A meeting of the executive committee of the State Auxiliary was held in Trenton in January, at which presidents and secretaries of county auxiliaries were present by invitation. Mrs. A. Haines Lippincott, of Camden, president of the State organization, spoke of the honor it is to be the wife of a physician, and of the

many hitherto unthought-of opportunities for service to humanity which such a position offers. Dr. Henry O. Reik, executive secretary of the State Medical Society was a guest, and spoke of the slow but sure development of the Woman's Auxiliary, which had grown out of a request from one of the state societies for such an organization. Dr. Reik was decidedly optimistic concerning the growth and usefulness of the infant organization, and spoke of many opportunities for service along educational lines, preventive work, urging of periodic health examinations, etc. The president called for short reports from the seventeen counties which were represented by forty-seven delegates. The executive committee has been asked by the State Medical Society to take charge of the entertainment features at the convention; and receptions, card parties, and trips are now being arranged.

TRISTATE MEDICAL CONFERENCE
Abstract of Proceedings

The meeting was called to order at 10.45 a.m. in the Transportation Club Rooms of the Biltmore Hotel, New York City, February 4, 1928, by Dr. James E. Sadlier, president of the New York Medical Society.

Representing Pennsylvania, there were Drs. Arthur C. Morgan, H. W. Albertson, and Frank C. Hammond.

Dr. Sadlier: We are honored today in having with us the legal adviser of the Medical Society of the State of New York, Mr. Lloyd Paul Stryker, who will present the question of "Expert Medical Testimony."

A Consideration of the Need of Legislation Bearing Upon the Question of Expert Testimony

Lloyd Paul Stryker, Esq.
NEW YORK CITY

It is a favorable symptom of the times that the representatives of the medical profession of Pennsylvania, New Jersey, and New York, by this splendid gathering, as well as by previous conferences, have attested their desire through a mutual exchange of thought to investigate and discover all that may tend to the advancement of the healing art. It is the very essence of democracy that the representatives of a particular calling should themselves debate and consider the need, if there be a need, for the enactment of new laws for the governing of their conduct.

Legislators respect, and should respect, the considered views of those to be affected by new laws. In this way, legislators may be helped to greater wisdom, which will find expression in the statute books, and in many instances perhaps will be revealed by a decision to add no further burden to the Gargantuan and unassimilable mass of legislation with which this country already is afflicted. Due in part to worthy motives, in part to the absorption of men in their own affairs and their consequent willingness to let others regulate them without thought or protest; due in part to the great American delusion that the remedy for all our ills is legislation; there has been too great a tendency, particularly marked in late years, to rush to the legislature for the correction of those evils which could be more adequately remedied by the persuasive force of public opinion and the development of conscience. You will find, if you examine the early reports of bar associations and the contributions to scientific journals, both medical and legal, that this subject has engaged the eager thought and anxious study of the lawyers and the doctors who were the leaders of their profession when the oldest of us were young men, and the youngest had not yet been ushered into this strange and complex world.

Perhaps in no other field has the medical man met with so much criticism as in the realm of expert testimony. There is much literature upon the subject. In the trial of innumerable cases in which testimony of this kind was introduced, and in the direct and cross-examination of hundreds of expert witnesses, I have been given some acquaintance with the nature of the criticisms, and perhaps have thus been educated to some capacity to appraise them, whether or not I am able to do that which no one else has yet done—propose with perfect confidence the one unanswerable remedy.

Let us attend to some of the criticisms of the expert witness, examine briefly into the history and nature of expert testimony, and consider some of the remedies which have been advanced. From this, perhaps, we may attain to a clearer conception of what we believe and consider advisable to advocate.

The United States Supreme Court once wrote: "Experience has shown that opposite opinions of persons professing to be experts may be obtained to any amount; and it often occurs that not only many days, but even weeks, are consumed in cross-examinations, to test the skill or knowledge of such witnesses and the correctness of their opinions, wasting the time and wearying the patience of both court and jury, and perplexing instead of elucidating the questions involved in the issue."

In the *Journal of the Franklin Institute,* Professor Charles F. Himes once wrote: "Perhaps the testimony which least deserves credit with the jury is that of the skilled witness. It is often surprising to see with what facility and to what an extent their views can be made to correspond with the wishes or the interests of the parties who call them. They do not, indeed, wilfully misrepresent what they think, but their judgment becomes so warped by regarding the subject in one point of view that even when conscientiously disposed, they are incapable of expressing a candid opinion. They are selected on account of their ability to express a favorable opinion, which, there is great reason to believe, is in many instances the result alone of employment and the bias growing out of it."

In a paper read before the New York State Medical Society on October 24th, the Hon. Willard Bartlett, one of the most distinguished judges of our highest court, declared: "For more than ten years, the condition of the law in the State of New York in regard to medical expert evidence has been the subject of frequent, active, and often acrimonious discussion among doctors and lawyers. Many reforms have been proposed and suggested, but no reform has been carried into effect. In my judgment, the failure in this respect has been largely due to a lack of appreciation of the obstacles to be overcome. Without an adequate knowledge of the difficulties to be encountered, no plan of campaign is likely to be successful."

Some 37 years ago, Judge Peckhman, speaking for the New York Court of Appeals, declared: "Expert evidence, so-called, or, in other words, evidence of the mere opinion of witnesses, has been used to such an extent that the evidence given by them has come to be

looked upon with great suspicion by both courts and juries, and the fact has become very plain that in any case where opinion evidence is admissible, the particular kind of an opinion desired by any party to the investigation can be readily procured by paying the market price therefor. He (the expert) comes on the stand to swear in favor of the party calling him, and it may be said that he always justifies by his works the faith that has been placed in him."

But in his article previously referred to, Judge Willard Bartlett wrote: "In reference to this matter, however, I desire to express my dissent from the sweeping condemnation of medical experts in which the courts so often indulge. There is scarcely a case where expert evidence is taken, in which some of the experts are not perfectly honest. They do not deserve denunciation merely because other experts are dishonest, or because it is often difficult to tell the false from the true. The medical profession itself must help us to make the distinction between the two classes easier. However objectionable are some of the aspects of medical expert evidence, it cannot be dispensed with in the administration of justice. Let us remedy the evils, but, while we are endeavoring to do so, let us avoid that exaggerated denunciation which is calculated to convince the community that no surgeon or physician who takes the witness stand as an expert is worthy of belief. Such teaching is a libel on the most unselfish profession in the world."

"The normal function of a witness," says one of the most authoritative works upon this subject, "is merely to state facts within his personal knowledge, and under ordinary circumstances his opinion or conclusion with respect to matters in issue or relevant to the issue cannot be received." Evidence, in its common acceptation of the term, has been defined by Sir James Fitzjames Stephens, in his *Digest of the Law of Evidence*, as "Statements made by witnesses in court under a legal sanction in relation to matters of fact under inquiry; such statements are called oral evidence."

Thus, ordinarily a witness is confined in his testimony to what he himself heard, saw, or did—to a statement of the facts. He is not allowed to speculate about them, draw conclusions or inferences from them, or express opinions of any kind. But "when there is a question as to any point of science or art, the opinions upon that point of persons specially skilled in any such matter are deemed to be relevant facts. Such persons are called experts. The words, 'science or art,' include all subjects on which a course of special study or experience is necessary to the formation of an opinion." An expert witness is "one who is skilled in some art, trade, or science or who has knowledge and experience in relation to matters which are not within the knowledge of men of common education and experience," and the law permits such a witness to "express an opinion on a state of facts which is within his specialty and which is involved in the inquiry."

Expert testimony is "admitted because the witnesses are supposed from their experience and study, to have peculiar knowledge upon the subject of inquiry which jurors generally have not, and are thus supposed to be more capable of drawing conclusions from facts and basing opinions upon them than jurors generally are presumed to be." Such testimony is allowed where "the jury cannot be supposed to comprehend the significance of facts shown by other testimony, which needs scientific or peculiar explanation by those who do comprehend it."

The law then, based as it is upon common sense, has deemed it necessary in the true administration of justice, that a jury should be enlightened upon questions which are beyond the scope of knowledge possessed by the ordinary man. It forbids the giving of opinions by those not qualified to give them, and permits them from those whose special knowledge and study is deemed sufficient to enable them to express an opinion.

The nineteenth century saw an advance in scientific knowledge unparalleled in any other similar period of the world's history. But the advance did not stop with the close of the century. It is still going forward—perhaps more rapidly now than ever before. This is true in every branch of science: engineering, law, mechanics, railroading, medicine, and indeed all others. To an increasing degree, courts are concerned with questions of science and scientific knowledge. So rapid have been the strides in the ascertainment of new truths that science of all kinds has been divided and subdivided, so that those who are really experts are such only in a particular and limited field. Thus, the human body, internally and externally, has been split up by the medical profession, and whereas formerly the general practitioner was able to be expert in every field of medicine, today specialization has become inevitable. Thus, a physician who confines himself to eyes, ears, nose, and throat frequently and with justice deems himself incompetent to know and comprehend intestinal diseases or fractures. Similarly, the surgeon and the internist is each specially schooled only in his particular and limited field.

With this vast advance in the accumulation of ascertained truth—an accumulation so large that even experts cannot comprehend it all—it is but natural and right that a lay jury, where a scientific question is in issue, should be enlightened upon the particular question of science involved by one who is competent to enlighten them. Not even the sternest critic of expert testimony, therefore, has thus far contended that it should be entirely done away with. It is necessary; it is indispensable.

There are certain classes of cases in which expert testimony is most commonly encountered. These are in criminal trials in which a question of insanity is involved, or as stated in the New York Penal Law, the question of whether or not the accused at the time of committing the alleged criminal act "was laboring under such a defect of reason as: (1) not to know the nature and quality of the act he was doing, or (2) not to know that the act was wrong"; cases involving a question of the competency of a testator to make a legal will; questions arising in actions for personal injuries, in which the extent, the nature, and the duration of the injury is involved; and cases of alleged malpractice, in which the question is—did the physician accused comply with or depart from the recognized treatment in general use." Perhaps nowhere so frequently as in criminal trials, has the employment of expert testimony given rise to discussion and criticism. All of us recall the Thaw, the Leopold and Loeb, and the many other notorious cases as falling within this category.

Let us now state and attend to some of the specific criticisms against expert testimony. The most frequent of these may be stated as follows:

(1) The claim that the expert is biased in favor of the party calling him, and that he thereby becomes in reality an advocate rather than a witness made so by reason of his commitment to and compensation by one side of the controversy.

The law has always recognized the right of an expert to compensation for his services. He acquired

his knowledge through long study, experience, and application. His knowledge is his stock in trade. There is no more reason why he should dispense his wares without compensation than that the merchant should be required to donate his goods without reward. Criticism, therefore, of an expert's compensation is one which the law itself has answered by allowing it. It is a criticism which has no justice.

Does an expert witness have bias in favor of the side which calls and pays him? Undoubtedly the opinion which he expresses he endeavors to, and should endeavor to, maintain. He is called to express that opinion, and he would be lacking either in conscience or ability if he did not, to the best of capacity, sustain it. The question, therefore, is not whether he is biased in favor of the party calling him, but whether or not he has honestly expressed an opinion which he honestly believes in. If he has, he has done no more than his duty, and no one should be criticized for that. If he has not expressed an honest opinion, undoubtedly he should be censured for it, but how can this be determined?

Medicine is not an exact science. Few sciences exist in which differences of opinion are not possible. If the expert physician's opinion is not honest, he should, in the hands of an able cross-examiner, meet with his just deserts, and the fallacy and error of his opinion should be and usually is laid bare by this sharp weapon of the law. I have cross-examined hundreds of expert witnesses. I have met with few indeed whose opinions seemed to me intentionally dishonest. When I have encountered opinions of that kind, perhaps I have had a reasonable amount of success in exposing them. But the weapon of cross-examination should be sharpened by a study of the particular scientific question involved, and a readiness to confront the expert with the countervailing views of eminent authorities who have written upon the subject.

When the expert is the "advocate" of the side which calls him—if what is meant by this is his effort to sustain a given view irrespective of its validity—such an effort usually is its own undoing, and a demonstration of the insincerity of the opinion redounds to the just disadvantage of the side which sponsors it. From my experience, the criticisms which we have just considered do not require the remedy of legislation. The law is already adequate to meet the problem.

(2) The criticism is often voiced that something should be done about expert testimony, because it results in conflict, the differences of opinion expressed by one side and the other leading to confusion.

The same criticism might be directed toward lay testimony. There is always a conflict, one side maintaining one proposition, and the other another. Our inherited system of court and jury, despite all the criticisms, since the days of the Magna Charta has been deemed the wisest means of determining such disputes, and in the long run administering true justice. So long as there are differences of opinion upon expert questions, especially in the domain of medicine, so long will these differences be voiced and championed in court, as they are elsewhere, in medical consultation, medical conferences, and in the medical journals. From this conflict, indeed, progress has resulted and the errors of accepted conclusions have been exposed.

I see no reason why expert witnesses should agree, provided they differ honestly. If the difference confuses, the confusion can be cleared up by the clear charge of a competent and honest judge. There is always some confusion in the trial of a sharply contested issue of fact, and far more frequently than is generally believed, juries prove themselves entirely competent, with the aid of the lawyers and the judge, to unravel the confusion, arrive at the correct conclusion, and thereby do justice in the case.

(3) The payment of contingent fees to experts has been criticized.

This criticism is not without some justice. The expert should be paid for his opinion, but should have no stake in the outcome of the case. But what applies to experts, applies equally to lawyers. The question of contingent legal fees is now well to the front in the forum of public discussion. Probably the system is wrong. On the other hand, a worthy litigant with a just case, but without financial means, might be deprived of justice if he could not secure the services of a lawyer upon a contingent basis, and this applies to the expert witness also.

(4) A criticism has also been offered because wealthy litigants are enabled to overawe the jury with a mass of expert testimony to the disadvantage of poor litigants.

There probably is some force in this, but until we attain that ideal state (if it be such) where all men are equal in estate, there is always some advantage in wealth and consequent disadvantage in poverty. These differences, however, by the law of compensation, usually are equalized. Thus, where a wealthy litigant excels in power to marshal witnesses, the poor litigant has the advantage in the matter of sympathy from the jury. The jury box and the ballot box are great equalizers and stabilizers in this country.

Should poor litigants in civil cases be allowed, upon making petition to the court, to obtain an order assigning them from a selective list one or more experts in their cases, their compensation to be paid in the first instance from the public funds, which funds could be reimbursed from any verdict which the plaintiff might recover and collect?

Such a question might be worthy of consideration, although personally I do not favor it. Such a plan for poor defendants who are accused of crime, no doubt, is just. At all events, that plan is now in operation in the New York Criminal Courts. Through recent amendments to Section 308 of the Code of Criminal Procedure, it is provided that, "In any case in which experts may be employed as witnesses and in case it shall appear to the satisfaction of the court or a judge thereof that the defendant is not financially able to employ experts, the court to which the indictment is presented or sent or removed for trial or a judge or justice thereof may direct the employment of expert witnesses for the defendant in number not exceeding the number sworn or to be sworn for the prosecution at an expense in the aggregate of not exceeding the sum of ten hundred dollars. Allowances under this section shall be a charge upon the county in which the indictment in the action is found, to be paid out of the court fund, upon the certificate of the judge."

(5) A further criticism is urged, in that mistakes may arise even when all experts agree.

This is true, but it is no more true in this field than in any other avenue of human endeavor. So long as there is the personal equation, mistakes will happen. Lawyers make mistakes, railroad engineers make mistakes, and so also (if you will read the decisions of the higher courts) do judges. No legislation can cure this.

(6) The requirement of the hypothetical question has often been condemned.

I do not believe that it has been condemned with great frequency by those who have had long experience in using it. The length and character of the hypothetical question, the trial judge in his sound discretion now has power to regulate. This discretion, like all other discretions, may be and no doubt at times is abused, but this is not a sufficient basis for sweeping condemnation of hypothetical questions.

The expert must necessarily express his opinion upon some hypothesis. He is not there to express a general philosophic view which has no relation to the case at hand. He is called to give an opinion upon the facts in the case. Nobody knows exactly what the facts will be until all of the lay witnesses have been examined and cross-examined. The hypothetical question places before the expert a state of facts finding its basis in the evidence. In other words, he is asked to assume facts which have been established in the trial. Thus, it frequently happens that an expert who has reached an opinion based upon the assumptions presented to him by one side or the other in advance of trial is forced to withdraw that opinion when new facts are developed, or the supposed facts previously presented to him are not established.

The hypothetical question must present a hypothesis based upon the established facts. If the lawyer asking the question assumes therein facts which have not been established, an objection to the question will be sustained by the trial judge, and he will be forced to reframe his question until it does contain only the facts which have been established. An apparent exception to this rule is found in the permission to propound a hypothetical question based upon facts which the lawyer expects later on in the trial to elicit. The lawyer, however, follows this practice at his peril, for if later he should fail in establishing the evidence which he has included in his question, the jury will be instructed that they may discount the opinion rendered if they find that it is based upon facts which have not been proved before them.

From an experience in propounding and objecting to hundreds of hypothetical questions, it is my opinion that there is no need for legislation on this subject. The discretion of an intelligent and fair judge is sufficient safeguard.

(7) A further ground for criticism of expert testimony frequently stated is based upon the want of satisfactory expertness, with the result that charlatans are permitted to testify.

This is the most tenable of any of the grounds of criticism urged. In *Legal Medicine and Toxicology*, it has been stated: "The great progress of the last fifty years in scientific medicine has been manifested also in an elevation of the principles of forensic medicine. Many questions, upon which formerly there would have been a difference of opinion between doctors, have now become established facts. We have a better knowledge and a better class of experts to aid in the cause of justice. But even so, there is much improvement to be desired, and expert testimony has still a reputation for uncertainty and difference which better methods in the selection of the expert witnesses and better methods of presentation of their really valuable testimony before the tribunal will finally overcome. Among the evils of the present system is that in some departments of legal medicine physicians who are really not experts, in the true sense of the word, can still qualify as such. A professorship of therapeutics and of insanity in an unimportant medical school, the honorary position of consulting physician to any asylum, or the position of a coroner's physician, does not necessarily qualify a physician as an expert alienist or pathologist, and yet the court generally recognizes such nominal insignia of office as evidence of fitness to testify, although the professor of therapeutics may have no practical knowledge of insanity, although the physician may never have visited the asylum to which he has been made consultant by courtesy, and although the coroner's assistant may have been created by purely political influence, with no regard to his attainments as a pathologist. An evil of this kind has perhaps no remedy save in the elevation of the ideals and standards of the whole body of medical practitioners. Its correction can be made by physicians alone or in coöperation with members of the legal profession, who can in their choice of experts, select only such as are known to be of high reputation for honor and integrity."

The New York law on this subject is that "if a man be in reality an expert upon any given subject belonging to the domain of medicine, his opinion may be received by the court, although he has not a license to practice medicine. But such testimony should be received with great caution, and only after the trial court has become fully satisfied that upon the subject as to which the witness is called for the purpose of giving an opinion, he is fully competent to speak." In the case just quoted from, the expert called had not been admitted to practice medicine. The court said of him that he was "not *prima facie* competent" for this reason, but held that it was possible to qualify him if it were shown that he possessed the requisite knowledge, even though he had no license to practice.

Whether or not a witness is in fact an expert, is a matter solely for the trial court—a question which it must decide upon its conscience after a consideration of the established qualifications or lack of them. The exercise of this discretion one way or the other is not open to review upon appeal.

In his treatise on the law of evidence, Mr. Wigmore has written: "The trial court must be left to determine, absolutely and without review, the fact of possession of the required qualification by a particular witness. In most jurisdictions it is repeatedly declared that the decision upon the expert mental qualifications of witnesses should be left to the determination of the trial court."

We have no quarrel with the provision that the qualification of an expert witness should be determined by the trial judge who, in his discretion, after a consideration of the facts, is empowered to decide whether or not the witness is in fact qualified, and were the trial judges more frequently to decide that an unqualified witness is in fact not qualified, in my opinion most of the criticisms on this branch of the subject would be eliminated.

A notable example of this was found in a case tried several years ago by my predecessor. In that case, the question involved was whether in the performance of an ethmoidectomy the defendant surgeon had carelessly punctured the wall of the nasal cavity and forced into the orbital cavity an instrument by which the optic nerve was injured or severed, causing the loss of the eye. A young doctor was called as an expert for the plaintiff. He was twenty-six years old. He admitted that he was a "professional testifier as a side line." He had never performed an operation on the brain, yet he declared that he would not hesitate to go into court as an expert witness and testify how it should be done.

Preliminary cross-examination of the witness was

conducted by Mr. Whiteside, who elicited these admissions. Mr. Whiteside then challenged the qualifications of the witness and objected to his being allowed to testify as an expert, to which the trial court responded: "In all my experience in court in twenty years, I never knew of a court to exclude testimony of one who offered himself as an expert."

In that case the law should have been such as to enable the judge to make a preliminary ruling upon the qualifications of that doctor. Under existing law, as he no doubt correctly interpreted it, that young man, who on his admission was not qualified as an expert on the subject concerning which he testified, was permitted to give expert testimony. Here is a subject which perhaps calls for legislation.

The question of enacting laws for the government of expert testimony has frequently been considered by both the medical and the legal professions. In 1909, for example, a committee of the New York State Bar Association was appointed to report "on the regulation of the introduction of medical expert testimony." The committee invited the coöperation of the Medical Society and the Homeopathic Medical Society of New York. The medical and legal professions thus united in a careful consideration of the problem. This committee, in a very well-considered and carefully reasoned report, after reciting the various criticisms of expert testimony which had come to them, concluded: "After giving to the subject a most careful and thorough consideration, and bearing in mind:

"First. That the sixth amendment to the Federal Constitution and the fourteenth section of the Bill of Rights of this State require that the accused in all criminal prosecutions has the right to be confronted with the witnesses against him.

"Second. That every party to an action, civil or criminal, has the constitutional right to call such witnesses as he may deem important to the maintenance of his cause, and the right to cross-examine those who may be called against him, your committee are of the opinion that the remedy for these evils lies with the Bench and Bar rather than with resort to restrictive legislation.

"Primarily with the Bench, not the trial Bench alone, but the Appellate Tribunals as well, for it is within the power of judges at *nisi prius,* to require a greater degree of competence upon the part of persons claiming to be experts by the simple but effectual method of defining to a jury with force and precision the distinction between a witness proven to be thoroughly qualified to speak upon the subject regarding which his testimony is offered and one whose claim to speak is predicated principally upon the fact that he is paid to do so.

"If trial judges will pursue this course and are sustained in so doing by the Appellate Bench, courts of justice will be rid of corrupt and worthless so-called experts, provided the judges themselves are animated solely by a wish to see justice properly administered.

"Occasional lack of competence and experience in judicial position is one of the misfortunes of our public life, but not less disastrous is the weakness of judges who find it more agreeable to occupy the center of the stage than to see that justice is carefully administered solely with regard to the rights of the individual and the state.

"Nor is the Bar blameless. Not only do some of its members connive at the hiring of corrupt and incompetent so-called experts, but they artfully and selfishly cultivate and largely are responsible for the fallacy that a witness is to be discredited if he can be disconcerted ("rattled"). Thus the art of cross-examination, so potent for good when fairly and properly used, plays havoc with hard-earned and well-deserved reputations in the hands of lawyers whose sole ambition it is to win. Scientific opinion, to be of controlling value, can be given only under conditions of mental repose. The haggling, sharp interruptions, uncalled-for wit, insolent comment, and other too common features of important civil and criminal trials are not such conditions. While they put some witnesses on their mettle, they throw the majority and the more competent into a state of mind in which all sorts of stupidities may be expected and are committed.

"The subject is one of such great and growing importance, and the demand for a reform of existing methods is so widespread and imperious, that your committee, having in mind the prevalence of professional inertia, have framed a bill, a copy of which is hereto annexed."

The bill which this committee recommended for enactment was conservative. It provided for the appointment by the appellate division of each department of at least ten and not more than sixty physicians in each judicial district "who may be called as medical expert witnesses by the trial court or by any party to a civil or criminal action in any of the courts of this State, and who when so called shall testify and be subject to full examination and cross-examination as other witnesses are." They were to receive for their services "such sums as the presiding judge may allow, to be at once paid by the treasurer or other fiscal officer of the county in which the trial is had." The bill further provided: "This act shall not be construed as limiting the right of parties to call other expert witnesses as heretofore." The debate which ensued at the annual meeting when this report was considered is interesting and instructive.

"In my opinion," said Judge Davy, "the objections to expert testimony could not be remedied by giving the court power to select experts recommended by the New York Medical Society. Such a rule of procedure would be too radical a change from our present system to meet the approval of the legal profession. The experts might also disagree, and would be no more liable to reach a correct conclusion than the experts selected by the defendant or the prosecuting attorney. Such a restriction would deny the accused in a criminal case his constitutional right to summon and employ his own witnesses.

"Neither would I favor a jury composed wholly or in part of experts; they would be no more liable to agree in the jury box than on the witness stand. A jury constituted as our juries are forms the very best tribunal for the trial of disputed questions of fact, even where scientific questions are involved. Men who ordinarily compose our juries are more likely to arrive at an impartial and correct conclusion than a jury of experts. They certainly would not be influenced by pride of opinion, as might be the case with experts.

"I would, however, make the qualification of expert witnesses rigid in its requirements, and no expert in a capital case should be permitted to express an opinion unless he has made a specialty of the particular disease which is the subject of inquiry.

"I am also aware that there is a tendency among some professional experts to make excuses for crime by increasing the number of mental diseases called insanity. This is one cause for severe criticism to which

the medical expert has been subjected by the legal profession and the public; but I am unable to discover any remedy for this class of testimony, or any good reason for excluding it. The testimony of an expert upon any branch of insanity which tends to establish the fact that the party who committed the alleged criminal act was laboring under such a defect of reason as not to know the nature and quality of the act he was doing, or not to know the act was wrong, is competent evidence, and cannot be excluded.

"I am also opposed to the court selecting a certain number of the expert witnesses recommended by the State Medical Society. The mere fact that the court selects them would not make them more reliable or honest in giving their testimony. An honest expert witness will give an honest opinion, regardless of the question of compensation or who employs him; and a dishonest witness cannot be relied upon under any circumstances in giving his testimony. There would also be great danger that the jury would be unconsciously biased in favor of the witnesses selected by the court."

A more recent suggestion for legislation upon the subject of expert testimony came to our attention a few days ago. It appears that at the House of Delegates of the American Medical Association in Dallas in 1926, the principle that the courts be authorized to appoint expert witnesses payable out of the public funds, who would furnish a written report, was endorsed. A draft of a proposed bill, concededly not a final one, was prepared by the Bureau of Legal Medicine and Legislation of the A. M. A. Under this bill, it is provided that any party may petition the court for the appointment of "such expert witnesses as in the opinion of the trial judge may be proper, to investigate the facts of the case and to testify with respect to them, or to give opinion evidence, or to do both, either generally or within such field as the petitioner or petitioners may name and the trial judge approve"; but it is also provided that "any party to a cause may elect" whether he will make such petition or "will introduce expert witnesses on his own account in the manner now authorized by law." The petitioner shall state in his petition "the *problems* to be submitted to the expert witnesses, if any be appointed," and it is provided that hypothetical questions, if any, "be submitted in the petition," and that these "shall be based exclusively on assumed facts set out in the petition, which the petitioner undertakes to prove." If the court grants the petition, then the experts appointed by the court preclude the person who has petitioned for them from calling other experts.

The bill further provides: "Each expert witness so appointed and commissioned by the court shall have the right to examine all evidence pertinent to the issues that have been submitted to him, which evidence it is proposed to introduce in the case on behalf of the party or parties at whose instance such expert witness was appointed. Each expert witness so appointed may examine under oath such witnesses as may be produced before him by any party or parties, and may administer oaths for that purpose." The experts appointed are required to state to the court "the *problem or problems* as presented by the court," their analysis of the problem, the evidence submitted to the expert witnesses or collected by them, the names of the witnesses examined by the expert witnesses, and the experts' deduction from all the evidence submitted to them.

The bill further provides that the report of the experts, although open to objection and exception by either party "*shall* be read to the court or jury, as the case may be, in the presence of such expert witnesses," and thereafter such experts may be subject to cross-examination like other parties, "but the qualifications of such expert witnesses shall not be open to attack." The bill further provides that the presiding judge or the jury "shall consider and give due weight to the methods of their respective appointments, whether by the court or directly by any party or parties."

In my opinion, this bill is subject to so many criticisms that it would be difficult to state them all, but I shall endeavor to state some of them.

(1) It erects the expert appointed by the court into the position of a quasi referee, enables him to "examine under oath such witnesses as may be produced before him by any party or parties" and to "administer oaths for that purpose." It provides, then, for what amounts to a preliminary trial to be presided over by a doctor who, though excellent in his own profession, may have a very hazy knowledge of the rules of evidence and the methods of eliciting testimony. He might do so well or ill, according to his peculiar ability. It would be strange if he did not elicit much hearsay or other incompetent proof upon which he would, although he should not, base his expert opinion. Such a course would immeasurably increase the complexities of a lawsuit, and would result in that worst of all legal evils—the law's delay.

(2) Through lack of proper training, or perhaps lack of time, such a quasi referee, acting in the guise of an expert, might fail to summon witnesses who could testify as to relevant and essential lay facts, and hence the opinion which the expert would reach would not be based upon the facts that would be elicited at the trial.

(3) The provision that the hypothetical question should be submitted to the expert in advance of the trial has the obvious defect that while it may represent that which the lawyer presenting it may hope to prove, it may not represent at all that which at the trial he would succeed in proving, and hence the whole hypothesis upon which the expert is invited to express his opinion would be false or faulty.

(4) The expert under this bill is directed to "report on and testify as to any problem or problems submitted to him." This provision seems little short of absurd. It is not upon "problems" that an expert witness is required to give his opinion, but on a definite, concrete statement of facts established by sworn lay testimony at the trial.

(5) The provision of the bill that the person securing the appointment of an expert witness is precluded from calling other experts, would deny him a substantial right if the expert appointed by the court were mistaken in his opinion, or if, as Judge Bartlett suggested, the expert deemed competent by the court were in fact not competent. The party who had followed this procedure would be denied the opportunity of introducing a competent and proper opinion at the trial.

(6) The provision that the expert's report made before the trial should be read in evidence is thoroughly unsound. If this report contains in it incompetent lay testimony, and opinions predicated upon facts which are not proved, then improper evidence is laid before the jury, of a prejudicial character and detrimental to the true administration of justice.

(7) The provision of the bill requiring that the qualifications of the experts appointed by the court "shall not be open to attack" is also bad. If the expert is incompetent and his opinion is wrong, it should be attacked, and his report should not be immune from

attack merely because it is made by an expert appointed by the court.

(8) The bill, in providing that in contrasting the testimony of expert witnesses appointed by the court and those not appointed, "due weight" should be given "to the methods of their respective appointments," further draws an arbitrary and unfounded distinction in favor of the expert appointed by the court, and against the expert which the court has not appointed, which distinction may not be based upon the competence of the experts and the value of their opinions, but upon a mere arbitrary distinction.

But assuming that all of these objections are unsound, the provision enabling the party either to petition the court to appoint the expert or to "elect" to "introduce expert witnesses on his own account in the manner now authorized by law" renders the whole bill a mere gesture.

In his paper read before the New York State Medical Society so frequently referred to, Judge Bartlett suggested that the proper remedy for existing evils in expert testimony lies in adequate amendments of the code of ethics by which physicians and surgeons regulate their own conduct. "By that code," Judge Bartlett said, "you regulate your own conduct in the practice of medicine, and insist that those who join the ranks of your profession from year to year shall agree to regulate theirs. No statute could practically be more binding. Why may you not extend its provisions so as to embrace the conduct of the medical man when he assumes the rôle of the expert witness? The matter is absolutely within your own control. You can declare in your code that a certain course of action on the part of a medical expert shall be deemed honorable and professional, and that a certain other course of action shall be dishonorable and unprofessional. A signal advantage of dealing with the subject in this way is that it would involve no interference with existing rules of judicial procedure. The rights of litigants or the manner of trying lawsuits would in no wise be affected. The needed reforms would be brought about by the compulsory operation of your own code of ethics acting personally upon each member of your profession. That code, amended as I am sure it might be if the physicians and surgeons of this country took the matter seriously in hand, by commanding medical experts to do what is right and subjecting them to professional censure and obloquy if they did what was wrong, would be more efficacious than any law on the subject which any legislature could enact. It would be your own law, adopted by yourselves for yourselves, and it would have that powerful sanction which belongs alone to laws which are a natural growth out of the conditions which lead to their adoption. To this action of your profession in some such way as this, I look with more confidence than anywhere else for the ultimate accomplishment of all that is desirable in the improvement of medical expert evidence."

Having listened so long, perhaps you would be interested in, whether or not you may be persuaded by, my own conclusions on this subject. These conclusions are:

(1) There are existing evils in expert testimony. But how many, if any of these, should or could be remedied by legislation is another question. The fact that evils exist does not prove that legislation is the remedy. In this country too many rather than too few laws are passed. Many new enactments are ill-considered; some of them seem hardly to have been considered at all. Let us, therefore, make haste slowly in the advocacy of new statutes, and if we are to sponsor anything, let us be certain beyond a peradventure that that which we espouse will improve rather than make worse the conditions now obtaining.

(2) I believe in our inherited Anglo-Saxon system of the administration of justice through the medium of court and jury, where every witness must be publicly examined and cross-examined in open court, and where no witness is entitled to any further rights or privileges than any other; where each must stand or fall, dependent upon the veracity, the character, and the intelligence which he has brought with him to the witness stand.

(3) I am against the appointment of expert witnesses by the courts in civil cases. Such an arrangement, if it precludes a party from the privilege of calling those of his own selection, deprives him of a substantial right, the right to produce testimony of his own selection, and which in many instances may be of greater scientific and probative force than that obtainable from official appointees. The appointment of experts by the courts is open to serious constitutional question, and indeed, in at least one jurisdiction, such a law has been declared unconstitutional. An arrangement whereby a party may call his own experts, in addition to those appointed by the courts, or may choose which he will call, would render any supposed advantage in having court-appointed experts nugatory, and would add to the complexity and technicality of court procedure already far too deeply enmeshed in that to which laymen, not without just cause, have so frequently referred to as "red tape." It would increase that ill of which since Shakespeare's time, mankind justly has been complaining, "the law's delay."

(4) I would not interfere with the hypothetical question, nor deprive an expert witness of the widest latitude (provided his answer is based upon the proven facts on which the hypothetical question is predicated) in expressing any opinion which his conscience and scientific knowledge will enable him to express.

(5) The only legislation which I would favor would be that clarifying and sustaining the discretion of the trial judge in deciding in the first instance whether or not a witness is in fact qualified to give expert testimony on the specific matter concerning which he has been called to render his opinion, and I would make it clear that the mere fact that a man has been licensed to practice medicine does not in itself qualify him to express an expert opinion, unless on his sworn testimony it appears that by special knowledge and experience he is in truth and in fact qualified to express it upon the particular subject in hand. Whether he is qualified or not is a question which should be clearly lodged within the sound discretion of the trial court.

(6) Legislation of the kind proposed might help, but the real remedy for existing evils lies in the better development of conscience on the part of those who now for pay express opinions in which they do not honestly believe, or who for hire advance unfounded or disproven theories in an effort to thwart justice. This remedy—the development of conscience—could best be made effective through the suggestion of Judge Willard Bartlett: the adoption of an amendment to the doctors' principles of ethical conduct specifically and in clear terms condemning as unprofessional those practices which enlightened lay and scientific opinion agree in condemning as improper and unworthy.

I have been asked in this paper to express my own conclusions, and I have done so without fear or favor. I should, however, make it clear that they are my own

conclusions and do not purport to be those of any client whom I serve.

Abstract of Discussion

Dr. Frank C. Hammond, Philadelphia, Pa.: There is no law on expert medical testimony in Pennsylvania. The only thing that applies is the general law, which provides that witnesses shall qualify before being permitted to give expert testimony in any line. Honesty of the expert is the crux of the situation. The contingent fee is the serpent in the grass. We feel that there is an unfortunate situation existing in the coöperation of the dishonest lawyer and the dishonest physician who is willing to give professional expert testimony for the fee alone, and we can, I think, be very hopeful that something may be done by the state bar associations to eliminate as far as possible the dishonest lawyer, and by the state medical societies to eliminate the professional expert witness who spends his time in a lawyer's office coaching the claimant, suggesting symptoms and answers to the examiner, and who will testify on the basis of a contingent fee.

The following editorial appeared in the *Pittsburgh Medical Bulletin* a couple of weeks ago:

"We have many times heard brother medical practitioners express in positive terms of disrespect their opinions of those doctors of medicine who constantly appear in court, on personal-injury cases, associated with such lawyers as to lead one to believe that the fee to be received for medical testimony will be based upon the size of the verdict handed down to the plaintiff. Never until recently, however, have we had opportunity to learn the opinion of a prominent jurist regarding the true worth of the testimony of the professional medical expert. In a personal-injury case recently tried in Pennsylvania a verdict was given against the defendant from which an appeal was made for a retrial on the ground that the verdict was excessive. The lower court having refused a new trial, the action was carried to the Supreme Court of Pennsylvania. Judge Kephart of the latter court, in reversing the lower court and granting the motion for a new trial, referred as follows, in no uncertain terms, to the almost negative value of the testimony of the professional medical expert:

" 'The professional expert, whose testimony we relate above, frequently appeared in court as a witness in personal-injury cases, and the inference from his evidence is that he made the giving of testimony in such actions a business. One of the evils in the trial of personal-injury cases is padding the claim with evidence of the professional medical expert. It certainly is not proper ethical practice. There may be cases where one, because of knowledge peculiar to a given litigation, is frequently called in as an expert, whose testimony may be accepted without hesitancy, as for instance, an expert in land and building values; but this evidence is not buttressed by technical knowledge accompanied by scientific expressions capable of confusing a jury. When considering a motion for a new trial, based on an excessive verdict, ordinarily but little weight should be given to such testimony.'

"Now that we have the opinion of a distinguished judge as to the worthlessness of most of such testimony and the ethical standards of such practice, we would like to have the opinion of qualified neurologists regarding the actual harm to the injured plaintiff that may result from his or her listening in court to the testimony of a physician under oath to the effect that the injuries received, which are ofttimes only subjectively manifested, are permanent in character.

"We believe that the professional medical expert is often ethically and morally off-color, and must be differentiated from the physician who is called upon occasionally to give in court expert testimony which is based on knowledge and experience which makes him an authoritative specialist."

We have in Pennsylvania men known as professional medical experts who are subject to call by lawyers from 9 a. m. to 5 p. m. Some of them, I understand, are in attorneys' offices during these hours each day, and all ambulatory cases are brought directly to them and examined. I have talked with a judge of our Common Pleas Court, and he said that he would consider fully ninety per cent of the accident cases as fraudulent, and that the unfortunate part is that most of the lawyers involved in the cases are known to the courts as being dishonest and the medical expert witnesses, too, are often known to be dishonest. His custom in such cases is to discount the medical expert testimony by fifty per cent. When verdicts are awarded, if he is not satisfied, he will call the opposing lawyers to the bar and discuss with them the circumstances of the case, and will recommend that the verdict be cut fifty per cent. If they desire to have the case go to another trial it is done, but usually they do not, and are perfectly willing to accept a smaller sum. He mentioned several names of physicians whom he considered as undoubtedly dishonest professional medical experts.

There is another type of medical expert, the man who is connected with a hospital and takes advantage of that fact to look through the records of accident cases. I know of one case in particular where a physician was the examiner for a corporation, and would use the hospital records to the advantage of his company. The executive committee of that hospital had their attention called to it, and this physician was told that it was not an ethical procedure, and if he continued to follow that custom he would be dropped from the staff. No further trouble ensued.

I have another professional medical expert in mind: A certain woman who tripped on a board walk in a Jersey seaside resort and was thrown forward on her face, claimed that she had sustained a backward displacement of the uterus. She had not been previously examined, but the medical expert testified that this did happen. Within a few months subsequent to that trial, this same medical expert was called in a case to give rebuttal evidence against a woman who brought suit claiming that she had sustained a backward displacement of the uterus by being thrown backward on her buttocks. He testified in this instance that a woman who was heavily thrown backward could not possibly sustain a backward displacement of the uterus.

Our profession feels very strongly about this unfortunate situation, but we seem powerless to do anything to help correct it. In June, 1927, the American Psychiatric Association adopted the report of a committee appointed from that Association to study the whole problem of crime and delinquency. The committee recommends that the association pursue the following program: (1) It should coöperate with the National Research Council, with the National Committee for Mental Hygiene, the American Medical Association, the American Bar Association, the American Ortho-Psychiatric Association, and with the American Institute for Criminal Law and Criminology, in further work on this problem. (2) It should set up, agree upon, and publish official standards, qualifications for

court psychiatrists and psychiatric expert witnesses, and coöperate with the American Psychologic Association and the American Association of Psychiatric Social Workers in the preparation of similar official standards of qualifications for psychologists attached to court psychiatric clinics.

The committee proposed that the Association should advocate: (1) Types of legislation such as the recent Massachusetts enactment, and the expert testimony bill of the American Institute for Criminal Law, which put the psychiatrist in a position of counseling the legal authorities as to the disposal of social offenders, implying the development of the necessary machinery, court psychiatrist, etc. (2) The following proposals of the American Institute for Criminal Law and Criminology with respect to trial procedure: That the disposition and treatment (including punishment) of all misdemeanants and felons, that is, the sentence imposed, be based upon a study of the individual offender by properly qualified and impartial experts, coöperating with the courts. (3) The court appointment from a qualified list of psychiatrists testifying in regard to mental status, mechanism, and capabilities of a prisoner, with the opportunity for thorough psychiatric examination, using such aids as psychiatrists use in practice, clinics, hospitals, etc., with obligatory written reports and remuneration from public funds. (4) Elimination of the use of the hypothetical question and the terms "insane" and "insanity" and "lunacy" and the exemption of the psychiatrist from the necessity of pronouncing upon concepts of religious and legal traditions on which he has no authority or experience such as "responsibility," "punishment," and "justice." (5) The teaching of courses in criminology in both law and medical schools by persons trained in both criminal law and criminal psychiatry.

We feel that if the State Bar Associations and the State Medical Societies will get busy, something may be done to help clean up some of these difficulties. The appointment of medical experts by the judges is not advisable. One physician who is fighting this professional-medical-expert group said he knew judges well enough to know that they would tend to appoint their own friends. One judge told me that he thought the judges already have too many duties and want no additional ones, and he thought that in large centers it would impose so much additional work that the judges would prefer some other solution to the problem. In Philadelphia alone it is said there are about 10,000 accident cases a year which come to the courts, and it would mean that the judges would have to appoint a large number of men to examine these patients.

In the appointment of medical experts by the Legislature there is a danger of political factors being involved. The county medical societies might recommend to the judges as experts men who are looked upon as qualified for this work, but the county medical society might be put in a most embarrassing position. The expert should be an authority in his line of work; he should have hospital affiliations, preferably a teacher in his specialty, and be above suspicion. There are physicians who are not connected with hospitals but who have the privilege of taking patients to the so-called open hospitals, which hospitals may or may not have a visiting staff, and one who is qualifying as a medical expert may say that he is on the staff of such a hospital which in reality may have no staff. The judge may discount fifty per cent of his testimony, but there should be some other method to combat this condition.

The hypothetical question is a delusion and a snare, for it is usually entirely too long and often includes contradictory statements to confuse the witness. The expert on the witness stand should state facts if possible and avoid the reason for having reached the facts, for it invariably permits of an argument or an opening for the lawyers to wrangle with the witness.

Cases should be refused on a contingent basis. The expert should charge and collect for his opinion. On a contingent basis the medical expert is bound to become a partisan.

The physician should not wrangle with the opposing attorney or lose his temper. To testify as an expert is not undignified when approached in a dignified manner. A thorough knowledge of the subject is essential. When an expert knows that he is telling the truth, and knows his subject, he need not fear any lawyer. After all, expert testimony depends, I believe, upon the individual honesty of the expert. Under the most alluring conditions held out to him he must learn to say, "No!"

If anything comes out of this conference today that we can carry back to our respective states to start some method of eliminating the dishonest medical expert, we shall have accomplished a big thing, not only in medicine but in law.

Dr. George H. Lathrobe, Newark, N. J. (Chairman of the Committee on Expert Testimony of the New Jersey Medical Society): Mr. Stryker has well said that there is no absolute remedy for the situation. The subject is confused and tangled up with all sorts of desires on the part of various conflicting interests. We medical men have very definite ideas regarding the stigma which is attached to our profession, and we want some remedy for it. We do not much care what the remedy is, but would like relief from what seems to us an impossible situation. The medical profession is an old and conservative one, as is the legal profession, and I think Mr. Stryker has given their attitude very well in the conclusions which he has drawn. He thinks that the long-established precedent of the law is something which should not be lightly thrown aside. His criticism of the American Medical Association's resolutions in Texas in 1926 is exceedingly good from a strictly legal point of view, but his criticism begs the issue of a remedy.

I do not agree with Mr. Stryker at all on the matter of the hypothetical question, but of course, his standpoint again is the legal one. Most of us feel that the hypothetical question is complex and confused, that it lends itself to chicanery on the part of both lawyer and doctor, and that it is utterly unscientific and has no place in a discussion when one is trying really to arrive at facts. What the remedy is, I confess I do not know, but I do think that something should be done about it. I wonder whether some of the difficulties might be overcome if expert testimony were taken out of the trial proper and offered before a special jury of men drawn from the same rank as the expert. If it is an engineering problem, have a half-dozen engineers as a special jury. Of course, that would lengthen the trial; but permitting an often exceedingly ignorant group of jurymen, whose intelligence is seldom above the average, the opportunity to decide what is and what is not correct on highly technical questions is, I think, wrong, because those things can seldom be reduced to such terms that a jury can readily understand them.

Mr. Stryker's suggestion that we should deal with this problem through the code of ethics is interesting. I do not believe we can do anything strictly by this method. The code of ethics is nothing but telling a

man how to behave himself like a gentleman. If he knows that in the beginning, well and good; if not, a code of ethics cannot make much difference, and I do not see how we would accomplish much by simply adding another rule. However, the action of the Medical Society of Leeds, England, is tremendously interesting. A number of years ago its members agreed that they would not go on the stand as experts unless they were permitted to confer beforehand with the experts on the other side. As I understand it, they feel that it has worked out very well. I believe the plan contains suggestions which are worth considering, and which we as medical men, operating purely through our own machinery, can perhaps apply in our various localities. It might be put into effect in any county and tried out.

Reduced to its simplest terms, the question to be answered is: how to put on the stand witnesses whose testimony shall be unbiased so far as possible. This seems to be the crux of the whole situation. We do not have ideal conditions. All medical men are not honest, unfortunately; all lawyers are not honest; all judges are not competent; all juries are not intelligent. It is one of those difficult efforts to create a foolproof bit of machinery.

Of the various types of remedies, just a little can be said definitely. Suppose, as has been suggested, that we retain the present system, but have the fees for all experts fixed by the court—have a certain maximum beyond which no expert witness can go without a penalty for misdemeanor or contempt of court. That would seem to remove the temptation of large fees: and yet it is impracticable because subterfuge would be an easy matter.

The employment only of experts appointed by the court, as Mr. Stryker has already pointed out, would be unsatisfactory because it denies the right of the litigant to produce his own witnesses. It seems, then, that the only logical recourse is to the selection of witnesses appointed by the court in addition to those who are appointed by the counsel on the opposing sides. The fees of such witnesses should be fixed by the court and charged either to public funds or apportioned in civil cases between the litigants. The great advantage of that is that it brings on the stand witnesses who are free from the suspicion of bias. The man who is employed as an expert witness is a subject of suspicion in the eyes of the general public. Not long ago Michigan passed a law, and the Michigan Supreme Court, on the first case tried under it, declared the law unconstitutional because it gave undue weight to the witnesses produced by the court, and prejudiced the jury in favor of the court's witnesses and against the witnesses produced by the litigants. The court said that was unfair. I do not believe that was a sound decision because it acknowledged that the litigants' witnesses are subject to suspicion. If they are, we should put on witnesses who are not.

The situation in New Jersey is unsettled, as it is in many places. Two years ago a committee from the State Medical Society and the State Bar Association agreed upon a law which was finally introduced into the Legislature and defeated. The present committee from the Bar Association is eager to do something about the question, and I have been several times in conference with Judge Dungan, the chairman of that committee. He is today recommending to the New Jersey Bar Association that their legislative committee prepare a bill providing for the appointment of expert witnesses by the court in both civil and criminal courts. Both Bar and Medical Associations in New Jersey seem ready to coöperate, and action should result.

Dr. Arthur C. Morgan, Philadelphia, Pa.: Some time ago I happened to appear in a compensation case in Philadelphia. A chronic professional expert testifier was on the opposite side. His lawyers said, "Doctor, you are an authority on this subject?" He very quietly said: "I have written several papers on this subject." He evaded the question which, of course, on cross-examination would have had to be answered—"yes" or "no" unequivocally. He had stated the truth but not the whole truth, because the general consensus of opinion among people who are acquainted with this doctor is that he does not know what he is talking or writing about, yet he was well within the limits of his oath.

The professional expert witness is the point of contention with us. It is conceded by the legal and medical professions that there should be expert testimony adduced in many if not most cases, but there should always be uppermost in the minds of both sides an attempt to arrive at the truth and the facts in the case, and to strip the case of all the useless things that hinder the end or object to be attained. It has been my pleasure to meet some judges who have gone by a few straight questions to the truth of the matter. They have in a nice way discounted the professional expert testifier. They have confuted the crooked lawyer. Both professions work hand in hand. We have names, which we do not need to give, but the facts are apparent. Despite the statement made by Mr. Stryker, I feel that a judge really possesses morally the right to hold in check both sides in the game—the lawyer who oversteps the bounds of justice and equity, and the doctor who shows himself to be venal and crooked—and to see that justice and equity are accorded.

Teachers in medical colleges have a moral duty to perform, not alone in teaching medical jurisprudence, but every teacher of every subject should have occasion to refer to this matter of medical expert testimony and make clear the duty of the physician when he gets into active practice to observe the precept and example that should be set by the teacher. Dr. Hammond happens to be a teacher of gynecology, and I know personally that he does refer to this in his teaching. Likewise all teachers should drive the lesson home, showing that it finally pays to play the game square. A doctor who has a sense of decency should decline to associate himself with some cases. In Philadelphia, if a certain few doctors are known to be engaged on a case, there are many physicians who refuse to appear in the same case. The same is true of lawyers. The very fact that they are engaged on a case presupposes that there is something crooked.

There is enough law for us to be governed by if we will, but the crux of the situation was summarized by Mr. Stryker—conscience. Therefore, it becomes an individual proposition with you and with me as to whether or not we possess conscience and whether or not we are alive to that which we know can determine what is justice and what is equity.

Dr. J. B. Morrison, Newark, N. J.: When Mr. Stryker quotes Judge Bartlett, whose standing in the Bar is unquestionable, as laying the entire burden upon the medical profession for raising the moral and ethical standards so that it would be impossible for any physician to give testimony in the courts such as we are accustomed to hear, we acknowledge that as all right theoretically; but it is absolutely impossible for the medical profession in this or any other country to set up an absolute standard of morality and conscience on

the part of any physician. Unfortunately, there have crept into the medical profession in the last twenty years men who have not any conception of what morality means. They are unmoral to begin with, but they are able to qualify and pass with high marks in the profession of medicine, and we are compelled to accept them. These are the men who prove so derogative to the profession. We might set up an ethical standard accepted by organized medicine, but Mr. Stryker and Judge Bartlett must recognize the fact that organized medicine comprises only about half of the medical fraternity. In New Jersey we have 2,400 members in the Society, but there are 6,000 physicians in the State, and the medical profession, through organized medicine, can never control those who are not in our membership. There are 96,000 members in the American Medical Association, but 150,000 men in the United States who are practicing medicine. It would be impossible for us to set up a standard of ethics that by compulsion would keep these men from testifying in court; so that while that proposition is very fine in theory, it is absolutely impractical.

I was also impressed by the fact that Judge Bartlett did not say that it is equally incumbent upon the legal profession to establish just as high a standard of ethics, which would keep out of the courts some of the miserable lawyers we see there who are given the power to carry on their crooked work and without any remedy applied by the Bar Association to drive these men out of their ranks.

I think that the method of cross-examination should be regulated in some way so that the nasty insinuating phrases, retorts, wit, and questionable methods of undermining and confusing a witness should not be permitted by the courts. It seems to me damnable that a lawyer can attempt to upset a witness so that he cannot properly testify.

I also believe that the courts should, by law, be empowered to determine the abilities of every expert witness. How many times does a judge question a physician on the stand along definite lines so that the court may show whether he is qualified to testify, what his ability, education, and practice have been, whether he has given any special study to a subject which would enable him to testify on a certain procedure? There is nothing in law that gives the court the right to determine these qualifications, and if such a thing could be brought about it might have a far-reaching effect.

A little while ago I read a copy of the California law adopted in 1925. For sixteen years the medical profession and the Bar Association there had been working for the adoption of some legal method to control expert testimony, and finally they had a bill drawn up which contains almost verbatim the recommendations from the New Jersey Bar Association. It does not take away from the plaintiff the right to produce his own witnesses, which is given by law. It gives the court the power, on motion of the court, plaintiff, or judge, to obtain expert medical testimony. The litigant is allowed also to produce his own expert medical testimony. The compensation in criminal cases is fixed by the court, is charged against the treasurer of the county, and the law provides for this payment. The charge in civil cases falls upon the litigant. There is this additional point of considerable importance—that the expert appointed by the court is given the remuneration which the court considers reasonable. A man of international standing might be given $1,000, a man of local standing, $100 for his testimony, but the man who is not appointed by the court is given only the average witness fees, and provision is made against accepting any more than that. Whether or not this is an ideal solution I do not know. I do not believe that the time is ripe to introduce legislation governing this condition. There is a great deal to be done in clearing the ranks of the medical profession, and there is just as much, if not more, to be done in the legal profession before legislation can be adopted that will be beneficial.

Dr. H. W. Albertson, Scranton, Pa.: If we were to accept in toto Mr. Stryker's argument, there would be nothing left to discuss. There are, however, differences of opinion on this particular subject. In every legal question, the thing that should be considered is the foundation in fact. There should be less quibbling on the part of jurists and more frankness on the part of witnesses. It seems to me that there is within our own ranks, as there should be within the ranks of the legal profession, a means of very largely eliminating this serious difficulty. My suggestion is that each individual state society should appoint certain men in each district of the state to be the outstanding figures in various types of cases, which may necessitate medical expert testimony. In insanity cases, only outstanding neurologists should be appointed, whose opinion would be honestly given, whether requested by the state or by the individual. Naturally, a neurologist might not be the type of man required in a compensation case, and another might be selected for that. The legal profession, however, is hampered as we are by the fact that lawyers must make a living, but there should be some method of censure for members of the bar who handle cases purely on the ground of remuneration. Censorship of that class of individuals in the legal as well as in the medical profession would in a great measure straighten out this very serious proposition. After all, the point has been very aptly stressed that conscience on the part of both the legal and medical professions is the one real solution.

Dr. Walt P. Conaway, Atlantic City, N. J.: It is undoubtedly true that there is a rapidly growing tendency on the part of physicians in general, as well as the public, to discount the value of medical expert testimony. No distinction is made between a qualified and an unqualified expert when considering his testimony, and all seem to be equally denounced as dishonest and unscrupulous. If murder trials are to continue, and if expert medical testimony is deemed necessary, then something more must be done promptly to correct existing abuses.

About a year ago the Cleveland Bar Association considered this matter through a special committee which acted in conjunction with a committee from the Academy of Medicine of that city. The central idea in all the measures proposed by these committees seemed to be the advisability of giving the judge power to appoint one or more disinterested qualified experts, not exceeding three, to testify, the fees of such witnesses to be fixed by the court and paid by the county.

Several years ago, the late Dr. Carlos F. MacDonald suggested that the medical profession, instead of condemning all medical experts, should fix a standard of qualification, based on special study and experience in a particular branch of medicine, which shall entitle a member to rank as an expert in that branch, and at the same time put its seal of disapproval and condemnation on the practice, which now too frequently obtains, of physicians posing as experts on subjects respecting which they have no special knowledge or experience.

Dr. George M. Fisher, Utica, N. Y.: We seem to

have come to the conclusion that the old adage regarding the lawyer—that he lies on one side and then turns over and lies on the other—is not alone applicable to the legal profession. There are many men in our own profession who work along the line of least resistance, and that applies many times to the expert witness.

The suggestion that some instruction in medical jurisprudence should be given to the undergraduate appeals to me. This might be of some value, though it will not control all men. Yet perhaps, starting a right purpose in youth may lead to a right destiny. I might say that in one or two instances which have occurred in our county, the local experts were not members of the county society. I have reference to one man who was a member but who has resigned. There is another man who is always on the stand, and who was recently discredited and fined $5,000 in a suit against him.

Dr. Arthur W. Booth, Elmira, N. Y.: I have had the misfortune to be a professional expert for the last thirty years; not an unprofessional one, however. It so happens that I am a physician to several railroads and large corporations, along with my other surgical work. My rôle has been that of a defendant expert. I have seen written into the verdicts or brought into the records of the courts during the last twenty-five years the most bizarre lot of pathology and medicine that can ever be conceived of, through the jumbled evidence adduced by the plaintiff attorneys. I have thought long and seriously on this matter, and am very much impressed by the remarks of Dr. Lathrope, of New Jersey, concerning the system in vogue in Leeds, England. For several years, whenever prudent, I have personally gone to the attorneys on both sides and said: "You want to get the truth of this. Then appoint a man, let the other side do the same thing, and let another man be appointed by the first two, so that we may get together, lay the cards on the table, and tell the medical truth in the case." In some cases it has worked very beneficially. We cannot legislate conscience into people, but we can appeal to the pride of every physician. No physician can stand before two of his colleagues and present an outrageous dictum or theory about his patient. I really believe that it would help in the solution of this problem to have, as Dr. Albertson suggested, outstanding individuals in our profession who might be called upon according to the character of the case, whether gynecologic, surgical, or medical, letting the plaintiff and defendant each select one man. Those three doctors should have access to all the medical facts of the case, and I think they could arrive at an honest survey and give an honest opinion to the court.

Dr. James E. Sadlier, Poughkeepsie, N. Y.: Relating to the present work of our Committee on Medical Economics which is drafting a bill to be presented to the Legislature with the sanction of the Industrial Service Commission of the State, and which designates a Medical Advisory Commission with voice but without vote to confer upon questions relating to compensation cases, we regard this as a very constructive piece of work which may help to solve some of the differences now existing between medical men and the insurance carriers of compensation liability. Properly constructed committees do work and get something done.

A conference was held about two weeks ago, resulting from the thought that medical students were not being sufficiently taught in the subjects of preventive medicine and public health, and were not going out with correct ideas upon these subjects. At a dinner meeting recently held in New York City, there were present the deans of the various medical schools in the State of New York, a fairly representative group of the leaders in the medical profession, and members from the Department of Education. We had a general round-table discussion on the education of the undergraduate in public health. Probably all of us went away that night with quite a different viewpoint, convinced that considerable was being done in teaching public health and prevention of disease, but that perhaps it might be carried to even a greater extent.

Dr. Daniel S. Dougherty, New York City: Referring to the subject of having the Council in New York State select a certain number of men who might act as experts, a plan more damaging to organized medicine in New York State could not be devised. I think a great deal of medical testimony results from the efforts of lawyers to bewilder the medical witness. I make it a rule, when asked to recommend expert witnesses, to reply that it is not within the prerogatives of the medical society to recommend or condemn physicians. If men of real standing could be selected, it would carry weight with the judge and jury, and a witness should remember his responsibility for upholding the dignity of the profession.

Mr. Stryker (in closing): This subject really embraces fundamental principles, and the one thought that emerges prominently is the need at this time in both professions of a better class of men. When some one devises a system by which that can be achieved, practically all of these problems will be solved. Of course, I speak largely from a New York City viewpoint, but as I see it, the difficulty is primarily that there is seeping into our life from abroad persons whith different racial strains and historic backgrounds, men who are going into the professions who simply do not have the standards and point of view of the American and Anglo-Saxon as to what is right and wrong. My experience has been that doctors and lawyers who have been educated to the right standards and have the right concepts will cause no trouble. Perhaps the reason they have a better English Bar than our American Bar is because the former is recruited from homogenous people with similar traditions and background. But when fundamental principles must be debated as to whether something is wrong or not, the only solution is to have men born anew. That is a difficult thing in this country, especially in large centers. This is a democracy. People come here and become citizens. It is a fine theory, but sometimes it does not work out so well, particularly in our professions, where conscience is the prime essential.

This opens up another subject—the question of individualism in the professions. I have heard a good deal of talk about "state medicine," and I see the same trend in the legal profession—to group the individual, to incorporate him, to break down his individual conscience and personality—and if I am the last man who stands up for individualism in both professions I will be there. It is the trend of the age to group people, to subordinate the individual. I believe that when the individual concept is taken away and all the hardships of years of work for the opportunity to stand out and be a worthwhile man in one's profession are removed, much is lost and the individual counts for nothing. I am against any kind of legislation that tends to subordinate the individual. We must take hold of these things ourselves in order to correct the evils which exist in our professions. One of the trends in this country today is to rush to the legislature or to Con-

gress to correct everything—intemperance, for example. There is a substantial unanimity of opinion on fundamental principles. We all admit there are great evils in the field of expert testimony, and we all admit that something should be done to rectify them. We should be in substantial accord on the best remedy to meet these existing evils. Is it legislation, or is it not? We should try to solve the problem before somebody else does.

The hypothetical question is debatable. I approach this from a highly practical standpoint, from meeting with hypothetical questions almost every day in court. Some of the criticisms come from gentlemen who perhaps do not quite grasp the idea that the case involves an issue, for instance, whether the doctor treated the leg properly or not, a solution of which depends on many questions. Every time a case is in court, half my problem arises from the importunities of my witnesses—how can they get there quickly, not be detained, etc. It might be a fine thing theoretically to have a group of experts discuss the case beforehand, but from the standpoint of a great city like New York you have a practical situation, a busy life, and you have to accommodate yourself to modern times. In an interlocutory trial, the case may be tied up with motions and appeals from motions. There may be fifteen of the patient's family and friends present who will testify that the doctor did not wash his hands or some other fact to show that aseptic precautions were not followed. The only thing to do is to seek an opinion predicated upon the facts of the case.

It would be a splendid thing if the public might have certain men in the various branches of medicine who were officially certified as experts in a particular specialty. If such a system were in vogue so that there would be qualified, recognized experts in the various branches of medicine, it would be easy to find the right expert witnesses in a given case.

My suggestion would be, if Dr. Sadlier agreed, to appoint a committee to consider this whole question. I respect the courts and the judges, and what I am saying is not in derogation of our judicial system, but appointments by the courts for the most part are made on political considerations.

An invitation was extended, by Drs. Morgan and Hammond, to hold the next session of the Tristate Conference in Pennsylvania, the time and place to be determined later. The invitation was accepted by Dr. Sadlier.

Dr. Conaway made a motion that the presidents of each of the three State Medical Societies appoint one physician member of a committee, and a similar lawyer member from the Bar Associations of the three States, to devise ways and means to alleviate existing conditions in regard to expert medical testimony. This motion was duly seconded and adopted.

Dr. Sadlier: At the last meeting held at Atlantic City there was a most instructive session on the question of the "private hospital," and the appointment of a committee at that time was suggested with reference to studying some method or plan for state licensure of the private hospital of the future. New York State, after some delay, for which I was responsible, because I was particularly anxious to secure one particular man, appointed Dr. Martin Tinker. Dr. Morrison was appointed for New Jersey, and Dr. Albertson for Pennsylvania.

Dr. Morrison: Speaking in regard to private hospital control, I was appointed chairman of that committee. During the months of January and February more of my time is taken up than during any others, and I have not been able to get the committee together yet to give the subject the consideration it deserves. I had a letter from Commissioner Ellis in regard to the bill I spoke of last year. We have a law in New Jersey controlling nursing homes, and he suggests that it is much easier to amend a law than to enact new legislation, and proposes to the men in New Jersey an amendment providing that a nursing home shall be deemed any place where two or more patients, not relatives of the owners nor of the lessee, are treated for more than six hours. That will cover all private hospitals. There is another clause in the present law which exempts from control a nursing home which has a medical staff. He wants that stricken out. He suggests putting a penalty clause in the act. I have asked them to hold it so that the three States may submit their bills at the same time.

Prevalence of Contagious Diseases in the United States.—The diphtheria case and death rates for the year 1926 were the lowest ever recorded, the death rate in the registration area being 7.5 per 100,000, and the case rate in 47 states, 80 per 100,000. In 1927 there was a reaction. Preliminary reports from thirty-seven states show an increase over the previous year of 16.7 per cent, and an increase over 1925 of 15 per cent.

During October, November, and December, 1927, the number of cases of scarlet fever reported to the U. S. Public Health Service was almost the same as for the equivalent period of 1925, but the figures are somewhat smaller than for these months in 1926.

During the last 13 weeks of 1927, smallpox was more prevalent than during the corresponding period of 1925 or 1926. This condition is the result of neglect of vaccination. The geographical distribution of the cases is very far from being uniform. As usual, the New England and Middle Atlantic States, with large and dense populations, had comparatively few cases.

The 1927 epidemic of poliomyelitis reached its peak in September, but the incidence of the disease continued higher than usual until the end of the year. Thirty-eight states, with an aggregate population of about 93,000 000, reported cases of poliomyelitis during the last thirteen weeks of the respective years as follows: 1925—1,124 cases; 1926—542 cases; 1927—3,277 cases.

Preliminary reports from the health officers of 31 states for the first five weeks of 1928 indicate that the prevalence of influenza was about the same as during the same period of 1927, and about half that for 1926. Comparable figures for the year 1925 are not available for some of the states, but the prevalence of influenza during the first five weeks of the year was greater in 1925 than in 1926. The combined influenza and pneumonia death rates per 100,000 population in 94 large cities of the United States for the first five weeks of 1926-7-8 were as follows: 1926—233 deaths; 1927—198 deaths; 1928—92 deaths.—*Public Health Reports.*

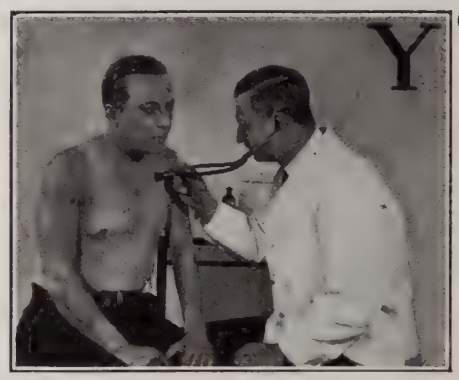
A study of juvenile delinquency by the U. S. Children's Bureau is urged by Miss Grace Abbott, Chief of the Bureau, who recommends that a new division be created in the Bureau for this purpose. An appropriation of $50,000, Miss Abbott estimates, would be required.

TUBERCULOSIS ABSTRACTS

A Review for Physicians

PREPARED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Published through the coöperation of the Pennsylvania Tuberculosis Society and the Medical Society of the State of Pennsylvania



YOU May Have Tuberculosis—"Let Your Doctor Decide" is the slogan of a nation-wide educational campaign carried on this spring to arouse the public to the importance of the early diagnosis of tuberculosis. When "consumption" is plainly etched on the face of the sufferer or when his sputum "sinks to the bottom of a pail of water," as the ancients observed, any layman can make the diagnosis of tuberculosis, which is then of little avail. To make a diagnosis of tuberculosis before the process has securely intrenched itself in the lung or before much damage has been done requires skill and is of the utmost importance, for the prognosis of tuberculosis varies in almost direct ratio with the promptness of its discovery. Diagnostic skill, however, is not so much a matter of expertness as it is one of taking pains to take a complete history and of properly evaluating the information obtained.

In this issue of "Tuberculosis Abstracts" are summarized in concise form the latest and best data available on the diagnosis of tuberculosis. These data have been gleaned from well-known authorities, and are further supported by the report of the Committee on Diagnostic Standards of the National Tuberculosis Association. A convenient pamphlet embodying the report of this committee will be sent to any physician on request by the Pennsylvania Tuberculosis Society, 311 S. Juniper Street, Philadelphia, or by your local tuberculosis society.

Symptoms of Tuberculosis

The most common subjective symptoms observed in the early stage of tuberculosis are the following:

FATIGUE—LOSS OF STRENGTH—Lack of endurance, or undue fatigue, often not relieved by usual rest, is the most common symptom of early tuberculosis. Overwork, lack of proper nutrition, excesses of various kinds, and especially intercurrent diseases such as influenza often lead the patient to complain of an unwonted feeling of fatigue, a "run-down" or an "all-in" feeling. Such obscure or unexplained fatigability should always suggest tuberculosis.

COUGH AND EXPECTORATION—There is no cough or expectoration characteristic of tuberculosis, but all such persisting for six weeks suggest pulmonary tuberculosis. The sputum should be examined two or more times in such cases.

PAIN IN THE CHEST—PLEURISY—This is not always indicative of pulmonary tuberculosis, though it perhaps occurs most frequently in this case. Pain aggravated by deep breathing suggests the possibility of tuberculosis.

HEMOPTYSIS—Unexplained hemoptysis of a dram or more of blood is presumptive evidence of tuberculosis. Blood streaks, blood spots, etc., may or may not mean tuberculosis. Any amount of expectorated blood, with or without sputum, may mean that tuberculosis is present and requires careful and thorough medical investigation as to its source.

HOARSENESS AND HUSKINESS—When persistent, should always be investigated as to origin. Laryngeal tuberculosis is a frequent cause.

LOSS OF WEIGHT—amounting to 5% or more of the usual weight within a period of three or four months and not accounted for by seasonal variation warrants a careful examination for tuberculosis.

FEVER—Elevation of temperature over 99 degrees F. occurring at some time of the day for several days should be regarded as abnormal, and warrants the suspicion of tuberculosis. It should be borne in mind that a temperature as high as 99.6 degrees F. may occur after exercise, after meals, or during the menstrual period. The temperature during the period of investigation should be taken by mouth every two hours for ten minutes.

RAPID PULSE—When taken after a half-hour of physical and mental rest, a pulse rate in men exceeding 90 per minute and in women 95 per minute may be one of the early symptoms of tuberculosis.

INDIGESTION—Loss of appetite, "finicky" appetite, or what the patient terms "dyspepsia" or "indigestion" is a common early symptom of tuberculosis.

NERVOUS IRRITABILITY—is a frequent early symptom.

Any one or several of these symptoms may prompt the patient to seek medical advice. None of them are pathognomonic. A careful history, of course, should be made, followed by a thorough physical examination, microscopic examination of the sputum and, in most cases, an x-ray examination. The possibility of focal infection of the upper respiratory tract, the sinuses, and elsewhere should be excluded. Exposure to tuberculosis, especially if it has been intimate and prolonged or frequently repeated, is very suggestive as adding to the probability of the diagnosis.

Physical Examination

A careful physical examination, particularly of the chest, is essential. Space prohibits full discussion of physical-examination procedures, but it may be emphasized that râles heard over the apex and persisting for some time are almost diagnostic of early pulmonary tuberculosis. These râles are best elicited by instructing the patient to breathe in through the mouth, then to breathe out and to give a slight cough with the last part of the outgoing breath. Râles are heard in showers, and usually well after the cough at the time the breath is inspired.

Pulmonary tuberculosis may exist without the occurrence of demonstrable physical signs. Absence of abnormal physical signs does not, therefore, mean absence of pulmonary tuberculosis. It is now recognized that the proper taking of x-ray pictures, preferably stereoscopic, is an essential procedure in the examination of the chest. Definite parenchymal changes are seen in nearly all instances of proved pulmonary tuberculosis. Absence of such changes demands other proof of the existence of the disease.

Activity

The determination of activity requires the correlation of clinical, laboratory, and x-ray data during a period of observation, preferably in a sanatorium.

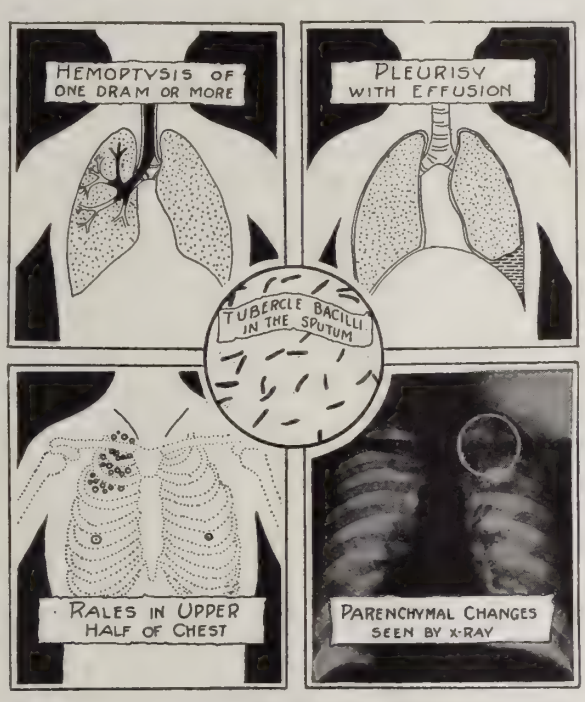
Progressive infection may exist without the presence of any symptoms. As a rule, however, the necessity for treatment is determined from the symptoms, such as fever, night sweats, rapid pulse, fatigue, etc. Activity cannot be determined by physical signs alone. Repeated physical examinations and serial x-rays very often show its presence. The occurrence of tubercle bacilli in the sputum does not in itself mean activity of the disease, though it does indicate a less favorable type of lesion (danger of bronchogenic spread). The same may be said of slight hemoptysis. The presence of râles does not mean activity.

Diagnostic Criteria

The diagnosis of tuberculosis cannot, however, be reduced to a formula. After all possible evidence has been collected, it must be evaluated, which requires judgment based on experience and on a visualization of the pathology. Guesswork can be materially reduced, however, by examining the collected evidence in the light of certain "key" symptoms. These are the so-called five criteria of diagnosis of pulmonary tuberculosis, and are as follows:

1. A history of hemoptysis of one dram or more without any other known cause.

2. A history of an otherwise unexplained pleurisy with effusion.



Schematic Diagram Illustrating Five Diagnostic Points of Tuberculosis

(Diagram Suggested by Lawrason Brown)

3. Definite râles which persist for a week or more in the upper half of the chest.

4. Definite evidence of parenchymal changes seen in the x-ray film, located usually in the upper half of the chest.

5. The demonstration of tubercle bacilli in the sputum on two or more occasions.

The first and second constitute merely presumptive evidence; the third and fourth, while at times misleading and possibly due to other causes, nevertheless very strongly indicate pulmonary tuberculosis. The fifth is practically always conclusive evidence of pulmonary tuberculosis, although it must be borne in mind that in rare cases, tuberculosis of the tracheobronchial lymph nodes without involvement of the lung parenchyma gives rise to a positive sputum.

The most important single maneuver in the diagnosis of early phthisis is the auscultation of the upper parts of the lungs after expiratory cough.—*Allen K. Krause.*

The Pennsylvania Tuberculosis Society

is a voluntary organization which coöperates with official and other health agencies in the campaign against tuberculosis.

Authoritative literature on tuberculosis may be secured from the Society or any of its one hundred affiliated branches throughout the State.

The home office is
409 Social Service Building,
311 South Juniper Street,
Philadelphia, Pa.

THE

MEDICAL SOCIETY OF DELAWARE

GYNECOLOGIC OPERATIVE TECHNIC

WILLIAM WERTENBAKER, M.D.
WILMINGTON, DEL.

Every patient who is to undergo a surgical operation has the right to a careful, systematic examination, oral and physical, at the hands of the surgeon who is to perform the operation. Beyond this, the patient has the right to a judicial attitude on his part. What relation does this condition have to her symptoms? Is the operation for the patient's best good? What are its dangers? Will it produce a cure? How would she fare without it? All these questions, and many more, should be considered before advising a surgical operation.

From the time the patient enters the hospital, the routine of the institution should begin to function. Blood counts, estimation of the coagulation time, urinalysis, and a Wassermann test should all be carried out as a routine matter. Preparation of the bowels, bladder, and field of operation should be done according to the individual custom of the operator and the institution. The preparation of the operating room, instruments, draperies, and dressings to be used are matters of hospital routine and individual choice, so long as they conform to the laws of asepsis, surgical efficiency, and common sense.

Sometimes, I fear we trust too much to routine. The surgeon is responsible to the patient, morally and legally, and any requests or demands on his part should not be resented, but should be met in a wholesome spirit of coöperation by the hospital personnel.

Abdominal Operations

Four types of incision practically cover the field of choice:

(1) Midline. The space between the symphysis pubis and the umbilicus offers an area through which the abdomen can be entered conveniently in the midbody line. Through it, the entire pelvic contents can be explored, together with the two iliac fossæ. This is the incision of choice with most operators in most cases. When properly closed, the after results are good.

(2) Pfannenstiel. This incision is especially indicated during the childbearing life of a woman, when the tissue is healthy and it is not imperative to conserve every minute of operative time. Its advantages are that the abdominal wall is as strong as before, that hernia is unlikely to develop, and that the cosmetic result is good. The disadvantages are slightly increased operative time, difficult retraction for the assistant, and conditions not favorable for drainage. I have employed this incision at times for the past fourteen years in over five hundred cases, and have never known a hernia to follow, even after repeated pregnancies. In one of the early cases a large hematoma developed between the fascia and muscle one month after operation which required incision and drainage.

(3) Right or left rectus. This incision has its advocates, but I have found no advantage over the other incisions. The limited field of exposure and the proneness to subsequent hernia has caused me practically to abandon it for pelvic work.

(4) Right or left oblique. This incision also provides a means of entering the pelvis which has its advantages. If the skin and fascia are incised, the muscle fibers separated in their course without dividing them, and the peritoneum is then incised, the resulting closure will be almost free from the danger of hernia, according to McBurney. On the other hand, only one side of the pelvis and abdomen is available for exploration and operation, and the resulting asymmetrical cicatrix is apt to focus the after attention of the patient upon it.

The different kinds of abdominal retractors are almost as numerous as the various types of obstetrical forceps. The self-retaining, angular, hooked, pronged, curved, and trowel types are among those from which a choice may be made. I have found the old-fashioned right-angled retractors the most useful, and have seldom had occasion to use any other. Of more importance than the type is the manner in which they are employed. With a patient in the Trendelenburg position and properly anesthetized, by holding the retractors in such manner as to lift up the abdominal wall, the gut can be packed off in such a way as to give a clear field for work upon the pelvic contents.

The hackneyed theme of accurate sponge count cannot be too strongly emphasized. I have finally adopted exclusively a large gauze sponge with a tape loop into which a metal ring is fastened. Should one be left in a patient, it could thus be located by x-ray.

Reliable catgut is the ideal material for sutures and ligatures in pelvic work. Nos. 2 and 1 twenty-day chromic catgut are my stand-bys, but Nos. 0, 00, and even 3 are used at times.

The subject of a proper toilet, at one time given so much prominence, seems to have been shunted into the background. Of late years I have been startled more than once to see an operator close an abdomen, leaving cut or denuded raw surfaces which could easily have been covered over. For such carelessness or inefficiency the patient must pay in after months and years by discomfort, misery, or possibly another operation. When working in badly diseased tissues the surgeon has to do the best he can, and many instances of so-called postoperative adhesions are not due to the operation, but are the result of the condition for which the operation was performed. On the other hand, it is the surgeon's duty to attempt to reduce these to a minimum, and in clean cases to eliminate them entirely.

In spite of all that has been said of late against drainage, the fact remains that in properly selected instances it is a great conserver of life. When in doubt, I still drain. The cigarette drain I use more often than any other type. It is gradually withdrawn on suc-

cessive days, the rapidity with which this is done depending upon the nature of the existing conditions.

The through-and-through interrupted method of closure seems to have gone into the discard. The interrupted suture in layers, the continuous suture in layers, or some combination of these two are employed most often. In ordinary cases I close the peritoneum with No. 0 chromic catgut, the fascia with No. 2 chromic catgut, and the skin with a subcuticular suture of silkworm gut.

Operations upon the Upper End of the Vagina

The broad-bladed weighted speculum is the most popular means of securing exposure of the cervix and vaginal vault. With the patient in the full lithotomy position, aided by one or two double tenacula forceps for traction, a most satisfactory exposure for ordinary operative procedures can be secured. In unusual instances, the Schuchardt incision is a tremendous help. Especially is this true in cases of high vesicovaginal fistula and when the cervix is held high by intrapelvic adhesions of the uterus and adnexa. For suture material I usually choose the large sizes of chromic catgut, No. 4 being the size I employ oftenest. Drainage should be used, at least for a few days, in all radical or plastic operations upon the cervix. Gauze wicks serve the purpose fairly well, but are not ideal.

Perineal Operations

Self-retaining retractors have had a certain vogue in this work, but the short double tenacula are my preference. The secret of successful perineal plastic work depends upon a thorough knowledge of the anatomy of the parts, an accurate estimation of the damage which was done to the parts, complete demobilization of the tissues, and their accurate approximation in proper layers.

I prefer the Koch heavy fistula needle for the deep sutures, and employ No. 4 chromic catgut for the material. For the skin and mucosa I usually use No. 2 gut. The proper handling of foreign growths and congenital malformations of this region will depend upon the experience, skill, and intelligence of the operator. I am frequently asked concerning the after care of perineal cases. My reply is always to let them alone.

912 Delaware Avenue.

Medical News

Deaths

Mrs. Albright, wife of Dr. J. W. Albright, of Muncy; March 26.

Mrs. Harriet C. Deihl, widow of Dr. H. L. Deihl, of Gettysburg; March 21.

Mrs. Alice M. Cruice, widow of Dr. Robert B. Cruice, of Philadelphia; March 30.

John E. Everitt, M.D., of Sayre; New York University Medical College, 1887; recently.

George W. Stein, M.D., of Norristown; Jefferson Medical College, 1891; aged 68; March 31.

Mr. Thomas H. Cartin, of Canonsburg, father of Dr. H. J. Cartin, of Johnstown; February 28.

Theodore M. Johnson, M.D., of Philadelphia; Jefferson Medical College, 1919; aged 34; April 17.

Burton H. Putnam, M.D., of North East; University of Buffalo School of Medicine, 1876; aged 78; February 8.

Frank U. Ferguson, M.D., of Gallitzin; Medico-Chirurgical College, 1890; aged 64; April 22, of apoplexy.

Mr. Thomas A. Prideaux, father of Dr. Harry T. Prideaux, of Cresson, and Dr. William A. Prideaux, of Expedit; March 8.

Clarence C. Gentry, M.D., of Knoxville; College of Physicians and Surgeons, Baltimore, Md., 1883; aged 71; February 29.

Lawrence E. Rectenwald, M.D., of Pittsburgh; University of Louisville School of Medicine (Kentucky), 1908; aged 48; recently.

Charles H. Cookson, M.D., of Pittsburgh; University of Buffalo School of Medicine, 1891; aged 65; March 14, of diabetes mellitus.

Benjamin F. Herr, M.D., of Millersville; Jefferson Medical College, 1877; aged 75; March 2, of chronic valvular heart disease.

Nathan A. Rinebold, M.D., of Athens; College of Physicians and Surgeons, Baltimore, Md., 1892; aged 70; March 3, of heart disease.

William T. Bond, M.D., of Philadelphia; Hahnemann Medical College, 1898; aged 55; April 16, at the Hahnemann Hospital.

Ernest O. Chellis, M.D., of Narrowsburg, N. Y. (member of the Wayne County Medical Society); Baltimore Medical College, 1896; aged 58; November 28, 1927.

Henry A. Glover, M.D., of Nichols, N. Y. (member of Bradford County Medical Society); University of Buffalo School of Medicine, 1882; aged 77; January 10.

M. Jane Sands, M.D., of Philadelphia; Woman's Medical College, 1918; professor of physiology at the Woman's Medical College; aged 35; recently.

Wm. Bastian Konkle, M.D., of Montoursville; Jefferson Medical College, 1884; aged 70; March 30, at the Williamsport Hospital, of meningitis secondary to a perirectal abscess.

Charles S. Wilsey, M.D., of Philadelphia; Hahnemann Medical College, 1927; intern at the Hahnemann Hospital; aged 27; April 19, after an illness of five months.

Michael Freeman, M.D., of Philadelphia; Medico-Chirurgical College, 1911; served during the World War; aged 40; March 21, at the University Hospital, of miliary tuberculosis.

John C. Gallagher, M.D., of Shenandoah; Medico-Chirurgical College, 1908; formerly superintendent of the Locust Mountain State Hospital; aged 46; February 29, of chronic myocarditis.

Frank C. Drane, M.D., of Llanerch; Hahnemann Medical College, 1888; founder of the Baltimore Southern Homeopathic Medical College and Hospital; aged 79; March 21, of heart disease.

William Reisert, M.D., of Philadelphia; graduate of the Philadelphia College of Pharmacy and Science, 1883, and the University of Pennsylvania School of Medicine, 1889; aged 66; April 9, at the Pennsylvania Hospital, after a prolonged illness.

Nelson F. Kistler, M.D., of Allentown; Bellevue Hospital Medical College, New York, 1889; on the staff of the Sacred Heart Hospital; member of the Board of Examining Surgeons of the United States Pension Bureau; aged 63; March 26, of myocarditis.

Martin E. Herrmann, M.D., of Dushore; Bellevue Hospital Medical College, New York, 1883; served in

the State Legislature in 1905-1906; surgeon of the Lehigh Valley railroad in Sullivan County; was said to have been the oldest practitioner in Pennsylvania; aged 86; April 2.

Morris J. Lewis, M.D., of Philadelphia and Ambler; University of Pennsylvania School of Medicine, 1874; former trustee of the University of Pennsylvania; member of the staff of the Orthopedic Hospital and Infirmary for Nervous Diseases, and a manager of the Wister Institute; aged 76; April 16.

Adam J. Simpson, M.D., of Chester; Gross Medical College, Denver, Colo., 1901; member of the American College of Physicians; on the staff of the Chester Hospital; formerly an associate editor of the Atlantic Medical Journal and chairman and secretary of the Section of Medicine of his State Society; aged 49; April 6, of heart disease.

Charles W. Bachman, M.D., of Reading; Jefferson Medical College, 1881; member of the Reading Hospital staff and on its board of directors; district censor and member of the board of trustees of the Berks County Medical Society and formerly its president for a number of years; aged 72; April 11, after a brief illness.

Birth

To Dr. and Mrs. Chapin Carpenter, of Wayne, a son, Chapin Carpenter, Jr., March 24.

Engagements

Miss Dorothy Chase Hills, of New Orleans, and Dr. Herman F. W. Flock, of Williamsport.

Miss Catharine Lennie Cary, of Melrose Park, and Dr. Edward E. Sprenkle, of Jenkintown.

Miss Lillian S. Ferguson, of Philadelphia, and Mr. Edward Winslow Taylor, Jr., son of Dr. Edward W. Taylor, of Philadelphia.

Marriages

Miss Margaret Fisher Collins, of Lewes, Del., to Dr. Robert Bastian, of Williamsport, April 4.

Miss Margaret Longwell, daughter of Dr. and Mrs. B. E. Longwell, of Johnstown, to Mr. Alvin Proudfoot, of Buffalo, March 31.

Miss Carolyn A. Krusen, daughter of Dr. and Mrs. Wilmer Krusen, Philadelphia, to Dr. Karl W. H. Scholz, assistant professor of economics at the University of Pennsylvania, April 9.

Miscellaneous

Dr. C. P. Henry, of Reading, recently spent ten days in Cuba.

Dr. F. A. Bartecchi, of Scranton, has recovered from an attack of pneumonia.

Dr. Robert C. Davis, of Johnstown, has resumed his practice after a long illness.

Dr. J. Norman Henry was recently elected president of the University Club of Philadelphia.

Dr. and Mrs. Howard F. Hansell, of Philadelphia, will sail the latter part of May for Europe.

Dr. and Mrs. R. B. Hayes, of Jersey Shore, have returned from a five-weeks' cruise to the West Indies.

Dr. Theodore Sureth, of Scranton, who has been seriously ill at the Hahnemann Hospital, has recovered.

Dr. Theodore B. Appel, State Secretary of Health, has been seriously ill at his home in Lancaster.

Dr. W. O. Keffer, of Johnstown, who fractured his left humerus in January, recently resumed the practice of medicine.

Dr. William C. Browne, of Burnside, is a candidate on the Republican ticket for the General Assembly in District No. 2 of Clearfield County.

Dr. and Mrs. J. C. Reifsnyder, of Scranton, are making an extended trip in which they will include a visit to Jamaica and the Carribean Sea.

Dr. James M. Anders, of Philadelphia, has been elected president of the board of trustees of the Perkiomen School, Pennsburg.

Dr. Wm. Clair Bastian, of Williamsport, has gone to New York where he will spend a year in the study of major surgery at the New York Post-Graduate School.

Dr. Francis S. Ferris, of Glenside, has been appointed chief medical examiner of the Philadelphia and Reading Relief Association, succeeding Dr. Casper Morris, who has retired.

The purchase of the old Reading Hospital buildings and surrounding grounds for a tuberculosis sanatorium was considered unsatisfactory by the Berks County commissioners.

Dr. Helen Hall, pathologist at the Woman's Hospital, Philadelphia, suffered a broken leg recently when a hit-and-run driver crashed into her automobile at a street intersection.

Dr. William S. Wheeling, of Windber, is spending four months in Europe taking postgraduate work. He plans to visit the clinics of London, Edinburgh, Paris, Vienna, Rome, and Berlin.

The Seventh Bedford Lecture of the Allegheny County Medical Society was held at the Duquesne Club, April 26. The essayist was Dr. E. B. Heckel, whose subject was "Realism in Medicine."

The commissioners of Dauphin County have agreed to join with the city of Harrisburg in the construction of a contagious-disease hospital. Each is to contribute $50,000 for the project.

Dr. Christian B. Longenecker has resigned as editor of the *Weekly Roster and Medical Digest* of the Philadelphia County Medical Society. Dr. John H. Remig has been appointed to fill the vacancy.

Dr. Solomon Solis-Cohen, of Philadelphia, has accepted the position of medical director of the Jewish Convalescent Home which will be erected at Willow Grove, a position which has been vacant since the death of Dr. Aaron Rivkees several years ago.

In honor of the birthday of Professor H. Brooker Mills, of Temple University, members of the H. Brooker Mills Pediatric Society gave a dinner on the night of April 23 at the Germantown Square Club, Philadelphia. Dr. Frank C. Hammond was toastmaster.

Sir St. Clair Thomson, M.D., of London, England, addressed the Philadelphia Laryngological Society on April 24. His subject was "The Technic for Operating in Intrinsic Cancer of the Larynx by Laryngofissure." In the evening a dinner was held in his honor at the Hotel Rittenhouse.

On April 9, plans of the Federal Government for a $2,500,000 hospital and sanatorium in League Island Park, adjoining the Navy Yard, were laid before Mayor Mackey of Philadelphia. The institution would be used for men of the navy and for former service men of both army and navy.

Dr. James M. Anders has been appointed by Secretary of Commerce Hoover as chairman of a committee to conduct a Better Homes Campaign in Philadelphia. Secretary Hoover is president of Better Homes in America, an organization which sponsors annually a nation-wide educational campaign for better homes.

On April 7, Dr. Chevalier Jackson formally dedicated the new bronchoscopic department at the Eagleville Sanatorium, the first institution that will utilize the bronchoscope as a therapeutic and diagnostic agent

(Continued on page xviii.)

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MEDICAL NEWS

(Continued from page 624.)

in the treatment of nontuberculous lung diseases. Dr. Gabriel Tucker will conduct the department.

Announcement has been made that the Maltbie Chemical Company of Newark, N. J., has contributed a grant for a research fellowship for the coming year to the department of chemistry of Princeton University. The work to be done will be fundamental in character and will cover certain phases of the chemistry of creosote and creosote compounds.

According to an announcement made at the luncheon given on March 20 at the Bankers' Club, New York City, the Leonard Wood Memorial for the Eradication of Leprosy received a gift of $50,000 from the Kane estate. The purpose of the two-million-dollar campaign is to promote the cure and eradication of leprosy in the Philippines.

Miss Mildred G. Smith, R.N., formerly educational agent of the Minnesota State Department of Health, has been appointed staff associate of the National Society for the Prevention of Blindness, with headquarters in New York City. Miss Smith will act as liaison officer between the Society and the various nursing organizations, public and private.

A testimonial dinner was given recently to Dr. Edward B. Gleason, on the occasion of his fiftieth anniversary as a practicing physician, by his friends and associates and members of the otolaryngologic group of the 1928 class of the University of Pennsylvania Graduate School of Medicine. Dr. Gleason was presented with an engraved writing set.

Through tickets are being issued by all eastern and southern railroads via the Chicago Great Western railroad from Chicago for the meeting of the American Medical Association at Minneapolis, June 11-15. These tickets are good via Rochester, Minn., and a stop-over is allowed without extra charge. See the Chicago Great Western advertisement on page ii.

The citizens of York County are engaged in a drive to raise $1,200,000 for a new hospital in the city of York owing to the fact that the present old and efficient York Hospital is no longer able to meet the rapidly increasing demands for its services. The new hospital is to have 170 beds according to present plans, but provision will be made for additional units from time to time.

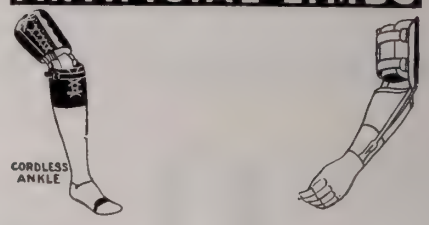
The first "Annual Graduate Fortnight" of the New York Academy of Medicine will take place October 1 to 13. In October of each year a problem of medicine or surgery of outstanding importance and interest to practicing physicians will be selected. The topic for 1928 is described as "The Problem of Aging and Diseases of Old Age," and the program will consist of lectures, clinics, and courses in hospitals and teaching institutions.

An intensive demonstration in the diagnosis and treatment of heart disease will be held in Philadelphia, under the auspices of the Philadelphia Heart Association, during the week of May 21 to 25 inclusive. Doctors in the State of Pennsylvania are cordially invited to attend this demonstration, which will consist of lectures, clinics, etc. Those wishing to register will kindly send their names to the executive office at 311 S. Juniper St., Philadelphia, Pa.

The March clinic at the Reading Hospital was in charge of Dr. Robert M. Alexander, who discussed "Diabetes." He was assisted by Miss Catherine Palmer, dietitian at the Hospital, whose subject was "Diet Preparation." At the April clinic Dr. Howard M. Leinbach discussed "Fractures of the Lower Extremity" with special reference to hip-joint fractures, and Dr.

(Continued on page xx.)

ARTIFICIAL LIMBS



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The equipment now in use in the Coolidge Tube Department includes 6 *Snooks*, 2 *Snook-Specials*, 7 5"30 M. A. *Transformers* (as used in the Victor *Stabilized Fluorographic and Radiographic Unit* and the Victor *Stabilized Mobile Unit*) and 2 "CDX" transformers. The filament transformers and regulators, overhead switches, meters and stabilizers are likewise standard Victor equipment.

When apparatus is put to this supreme test, under the hardest conditions imaginable, the manufacturer's confidence in his product is well founded, and his claims backed up by convincing evidence.

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MEDICAL NEWS

(Continued from page xviii.)

Robert J. Henderson demonstrated the use of various kinds of physiotherapy treatment in the management of fracture cases.

The annual case-report contest sponsored by the Allegheny County Medical Society for interns of the approved hospitals in Allegheny County was awarded to Dr. Eugene A. Conti of the Pittsburgh Hospital. Second prize was awarded to Dr. W. B. McLaughlin of St. John's General Hospital. Honorable mention was given to the case reports submitted by Dr. William C. Hutchinson of Mercy Hospital, Dr. John H. Heintzelman of Mercy Hospital, and Dr. H. D. Ingram of West Penn Hospital, of Pittsburgh.

Public Health Day was observed in Philadelphia on March 28 with extensive programs carried out by school children in all parts of the city. More than 250,000 leaflets were distributed among school children with a request that they take them home. Another feature of the observance of the day was a fashion show in the Medical Society Building under the direction of the Woman's Auxiliary. Dr. James M. Anders was chairman of the Public Health Day Committee with Mrs. Wilmer Krusen chairman of the women's committee.

Announcement has been made of a gift of $250,000 by Jeremiah Milbank, New York philanthropist, for study of the cause and treatment of infantile paralysis. A three-year program has been planned, with Chicago, Columbia, Harvard, and New York Universities in this country, the University of Brussels, and the Lister Institute, of London, participating in the research. Each university and laboratory will have absolute freedom in its investigation, but the International Committee for the Study of the Disease will compile the results of all.

At a meeting held recently at Temple University Medical College, which was attended by many of Philadelphia's leading surgeons, the proposal was made to found a great library of motion pictures by five medical schools of Philadelphia to serve both as a historical record and as demonstrable texts in teaching medicine and surgery. Dr. William Egbert Robertson outlined the plan for the creation of the library, and a committee was named to investigate the project, composed of Drs. William Pearson, dean of Hahnemann Medical College; Temple Fay, of the University of Pennsylvania; Harry Stuckert, of Jefferson Medical College; and Dr. Robertson.

Under the authorization of the Board of Trustees of the Jefferson Medical College, there has been founded a lectureship as a memorial to the late William Potter. This will be known as the William Potter Memorial Foundation for which a fund has been established by William Potter Wear. The board of trustees has appointed for life Professor Chevalier Jackson as William Potter Memorial Lecturer to deliver to the senior class each year a series of lectures on bronchoscopy, esophagoscopy, and gastroscopy, and to arrange for one additional lecture each year to be given by an eminent authority on a subject in any branch of science.

The American Association for the Study of Goiter, consisting of internists, pathologists, radiologists, surgeons, etc., will hold its fifth annual conference in Denver, Colorado, June 18 to 20. Several men from foreign countries have signified their intention of attending, among them Professor Breitner of the Von Eiselberg Clinic, Vienna, and Professor Albert Kocher of Berne, Switzerland. Addresses and discussions on prophylaxis, medical treatment, endemic goiter, and cretinism from the public-health standpoint will feature the program for the first afternoon. Pathology,

(Concluded on page xxii.)

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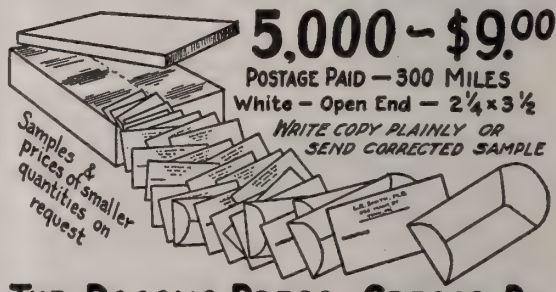

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Assets, $2,753,000.
Combined assets of Fund and associated accounts, $4,900,000.

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HYNSON, WESTCOTT & DUNNING
BALTIMORE, MD.

MEDICAL NEWS

(Concluded from page xx.)

various phases of surgical treatment, etc., will be considered the last two afternoons. All members of state medical societies are invited to attend.

Announcement is made by Dr. George H. Meeker, Dean of the Graduate School of Medicine of the University of Pennsylvania, of the opening on March 31, 1928, of the newly and completely equipped Chevalier Jackson Bronchoscopic Clinic of the new Graduate Hospital of the University of Pennsylvania, at 19th and Lombard Streets, Philadelphia. This clinic will be in personal charge of Dr. Chevalier Jackson, Professor of Bronchoscopy and Esophagoscopy in the Graduate School of Medicine of the University of Pennsylvania. The clinic is very handsomely and completely equipped, through the generosity of Mr. Frederick S. Bigelow, a member of the Board of Hospital Managers. The Bronchoscopic Clinic of the Graduate Hospital will be the headquarters for bronchoscopic instruction to physicians who come to the Graduate School of Medicine for the regular courses in otolaryngology or for the special courses in bronchoscopy. The latter courses, which are offered to otolaryngologists and surgeons, are conducted at stated two-weeks' periods and limited to groups of physicians who have previously registered with the dean. The future periods thus far announced are as follows: May 28 to June 9, 1928, and August 6 to August 18, 1928. Further dates may be obtained from time to time by application to the dean.

Plans for an imposing new building for the School of Medicine of Temple University, Philadelphia, were detailed at a dinner given April 19 at the Bellevue-Stratford Hotel. The building and expansion program were fully described. President Beury has announced that public-spirited citizens of this city and state will be asked to contribute to a fund of approximately $1,000,000 for the erection of the new medical school and the expansion of the medical department of the University. The plan is one of the important phases of the "Greater Temple University" project being promulgated by the Russell H. Conwell Foundation. A site for the new building was selected in close proximity to the Samaritan Hospital, which is the main teaching hospital of the School of Medicine. Plans for the new building call for a six-story structure in an architectural style that will conform with the Georgian design of the Samaritan Hospital. The latest ideas in medical-school construction—the result of a survey of similar institutions throughout the East by a committee of experts—are embodied in the building plans. In addition to the usual classrooms and laboratories, space will be provided for the carrying out of an exhaustive program of scientific research. Subscriptions to the Medical School Fund will be received by volunteer workers under the supervision of committees of physicians and laymen, and with the coöperation of the medical staff of Temple University and the Samaritan Hospital. Headquarters will be established at the Samaritan Hospital. A general chairman to direct personally the accumulation of the fund will be appointed in the near future.

Wanted.—A medical doctor in town of three hundred inhabitants. Thickly populated farming country. No doctor for twenty miles. For further information write J. M. White, East Waterford, Juniata Co., Pa.

CANCER STUDY COURSE

Philadelphia, Pa.

May 22-24

Every hospital should send a member of its staff. Further information may be obtained on page 591 in the Officers' Department.

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Wanted.—We have several well-trained practical laboratory technicians with additional training in physiotherapy graduating from our school of public health May 15; physicians, hospitals, clinics, and health departments desiring such service can secure it by writing immediately. Address, Dr. L. H. South, Director Bureau Bacteriology, Kentucky State Board of Health, 532 West Main Street, Louisville, Ky.

Important Notice.—University of Bordeaux, France, Postgraduate School, Oto-Rhino-Laryngological Dept. Five weeks' course, beginning August 6, 1928. Enrollment closes June 1st. Pronounced "the best course on the Continent." Will consist of oto-rhino-laryngological surgery, bronchoscopy, plastic, mastoid, and neck surgery. Lectures in English. Class limited to fifteen physicians. For information apply to Dr. Leon Felderman, 4428 York Road, Philadelphia, Pa.

New Illustrated Catalog.—W. B. Saunders Company, medical publishers of Philadelphia and London, have just issued a new illustrated catalog describing more than 250 titles, many of which are new books not previously described. A number of these are Blumer's *Bedside Diagnosis,* McLester's *Nutrition and Diet,* Braasch's *Urography,* Cecil's new *Textbook of Medicine,* Stokes's *Clinical Syphilology,* Kolmer's *Chemotherapy,* Ford's *Bacteriology,* Young's *Urology,* Rehfuss's *Diseases of the Stomach,* Pelouze's *Gonorrhea in the Male,* Crohn's *Affections of the Stomach,* Ewing's *Neoplastic Diseases,* de Takáts' *Local Anesthesia,* Wechsler's *Clinical Neurology,* Palfrey's *Specialties in General Medicine,* etc. Any one desiring a copy of this 80-page catalog need but indicate his wish to Saunders Company and one will be sent immediately.

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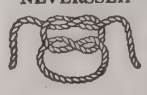

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Issued monthly under the supervision of the Publication Committee

VOL. XXXI
NUMBER 9

230 STATE STREET, HARRISBURG, PA., JUNE, 1928

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Symposium on Cancer of the Breast*

CERTAIN PRINCIPLES OF BREAST SURGERY, ILLUSTRATED BY SECTIONS SHOWING APPROXIMATELY THE ENTIRE BREAST†

JONATHAN M. WAINWRIGHT, M.A., M.D.
SCRANTON, PA.

The study of microscopic slides showing approximately the entire breast bids fair to rewrite several chapters in the knowledge of this gland from the standpoint of both the surgeon and the pathologist.

Sir Lenthal Cheatle, in London, and Professor John Frazer, of Edinburgh, have amply shown the importance of large sections for diagnosis. More than this, they have shown by these large sections that a new field is now opened up by which, for the first time, we can really study the "natural history" of both the normal and the pathologic gland.

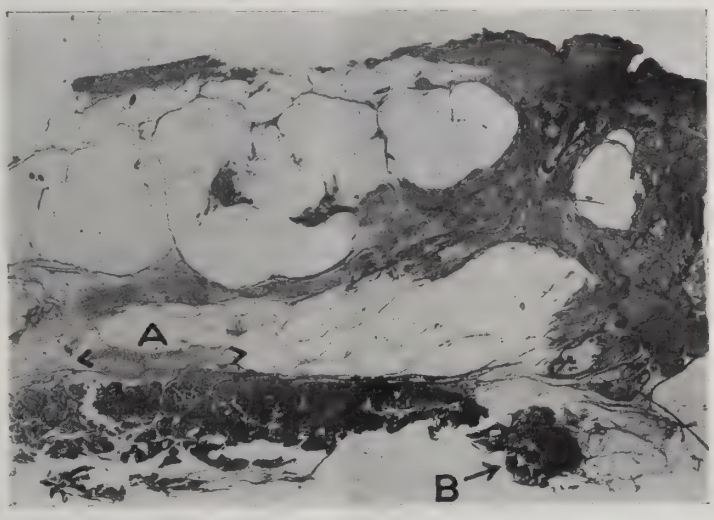

FIG. 1. Group I. Muscle involvement shows skin (broken in center of field), nipple, duct cone and underlying breast and pectoralis major muscle. To the right of the duct cone is a carcinomatous area. At *A* is an area of muscle fascia very much thickened for three quarters of an inch by a carcinomatous growth involving the muscle. The dark nodule *B* at the edge of the muscle is also carcinomatous.

The accompanying illustrations are all actual-size reproductions of a few slides selected to demonstrate the author's point of view on some still debated questions as follows:

I. REMOVAL OF PECTORAL MUSCLES

Group I, figures 1, 2, and 3. Figure 1, at *A*, shows a distinctly thickened strip of fascia over the pectoralis major, and, at *B*, shows a nodule over one-quarter inch in diameter at the edge of the muscle. This muscular involvement cannot be appreciated clinically either before or at the time of operation, and if this pectoral muscle had been left behind disaster would have been certain.

Some have maintained that it is not necessary to remove the large pectoral muscle provided the fascia is carefully dissected off. In group I, figure 2, a long strip of underlying pectoralis muscle is seen. The dense black streaks, seen best to the right under the microscope, are very definite areas of carcinomatous infiltration. No matter how carefully the fascia is dissected these areas will be left behind.

Others maintain that it is proper to remove the major muscle, but not necessary to remove the minor. Group I, figure 3, shows the thick major muscle above, the minor below, and the fascia between. The thickened dense black streaks between *AA* are carcinomatous extension which would surely be left behind with the minor muscle.

It is hardly cogent to argue that it is not necessary to remove muscles because "one does not see recurrences in the muscles themselves but in the abdomen or thorax." It has been amply

*Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

†Reprinted from the Transactions of the American Surgical Association, 1927, vol. xlv, p. 435.

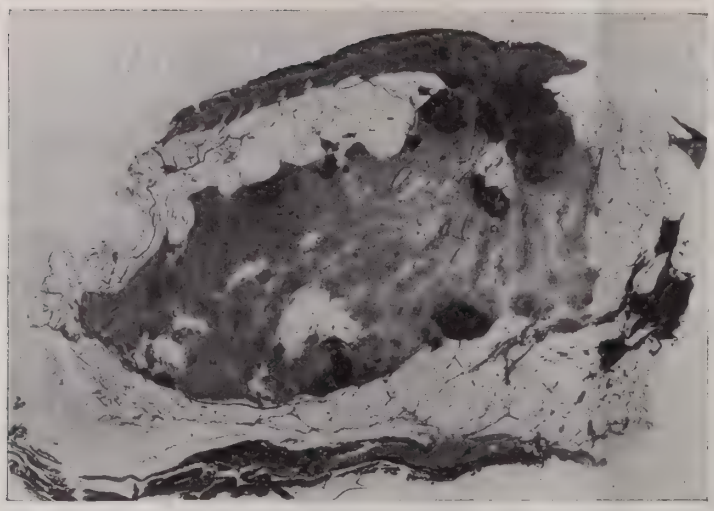

FIG 2. Group I. Muscle involvement showing skin, retracted nipple, duct cone, and underlying breast with numerous separate carcinomatous nodules. The black streaks in the muscle are all carcinomatous infiltrations. These are best seen to the right.

demonstrated that carcinomatous deposits may remain behind anywhere in the operative field—skin, muscle, or fascia—and never become large enough to be detected clinically. They may later be destroyed entirely; but before they are destroyed, and while they are still lying in the operative field, cells have escaped to form fatal metastasis at a distance, so that while we may flatter ourselves that the local recurrence has never taken place, it is most often the unsuspected nodule left behind in the local field that has done the harm after all.

II. MULTIPLE TUMORS

It is taught in some textbooks and some recent journal articles that from a standpoint of differential diagnosis multiple tumors in the breast are benign.

Group II, figure 4, shows two separate nodules, and figure 5 shows three. It does not matter here if these are all part of the same carcinoma or not. The point is that, clinically, they are appreciated by palpation as separate and distinct multiple nodules, and if on that account a diagnosis of benign condition is made, disaster again follows.

FIG. 4. Group II. Multiple tumors showing skin, nipple, and breast with two carcinomatous nodules.

Group II, figure 6, is especially sinister. It shows at *B* and *B'* simple cysts. At *A* the denser black area is a diffuse scirrhous growth. These three nodules are all about the same size and undoubtedly all feel the same to the examining finger. It may be definitely determined that one of the nodules is a cyst and the assumption would be that all three are. *B* and *B'* can easily be shelled out intact. If an attempt is made to shell out the similar carcinoma at *A* there is trouble.

III. DUCT STASIS AS A PREDISPOSING CAUSE OF CARCINOMA

It is now felt that we must have chronic irritation as a precursor of cancer. "Cancer never develops in normal tissue." In the mouth, pylorus, rectum, cervix, etc., the chronic irritation has been clear. In the breast the chronic-irritation factor has not been so clear. Formerly it was assumed offhand that repeated lactation provided the chronic irritation. We now know, largely from the illuminating studies of Jane Lane-Claypon, that the more frequent and prolonged the lactation the less the liability to carcinoma: single women have breast carcinoma most often; married women with no or a few children next most often, and married women with many children least often. Cheatle, Bagg, and others have explained these facts by calling attention to plugging of the duct ori-

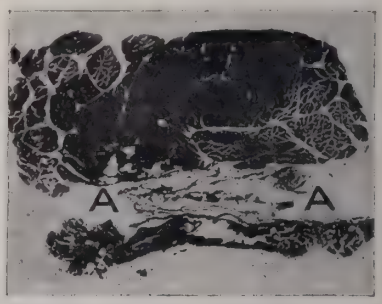

FIG. 3. Group I. Muscle involvement showing a thick mass above of pectoralis major; below, pectoralis minor. Dense black points between *A A* in pectoralis minor fascia are carcinomatous deposits.

FIG. 5. Group II. Multiple tumors showing breast, underlying muscle, and three separate carcinomatous nodules, the lower involving muscle.

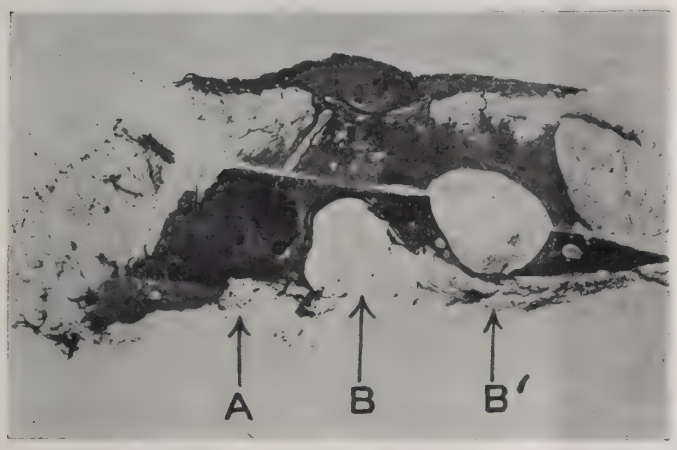

FIG. 6. Group II. Multiple tumors showing skin, retracted nipple, duct cone, and breast tissue. At *B* and *B'* are two simple cysts. At *A* is a carcinoma.

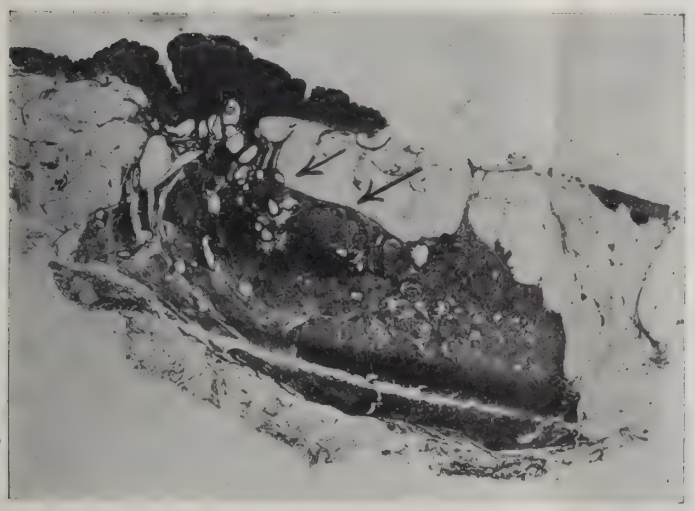

FIG. 7. Group III. Stasis and dilated ducts showing skin, nipple, duct cone, and breast with a carcinoma under the arrows. Numerous dilated ducts lead down to the carcinoma, some in the malignant tissue.

fices, forming dilated ducts with epithelium constantly under pressure and hence abnormal.

Group III, figures 7 and 8, both show nipple and duct cone with many dilated ducts streaking off toward the area of the breast which later becomes malignant. There are many similar slides in the writer's collection.

IV. Spread by Connective-Tissue Septa

Handley has shown that it is not the concentric growth of a carcinoma, leading merely to increase in size, which is the most harmful. The great danger comes from spread of carcinomatous cells through the connective-tissue septa to the skin (suspensory ligaments of the breast) and to the muscles. The cells permeate along these septa, reach the more active lymph currents under the skin and in the muscles, and thence are carried more rapidly to distant parts.

Group IV, figures 9 and 10, clearly show connective-tissue septa at various points (*AA*, etc.) distended with carcinomatous deposits. In figure 10, at *BB*, are two palpable subcutaneous nodules formed from cells brought to the skin by underlying connective-tissue septa.

V. Benign Tumors Becoming Malignant

This is too large a subject for the present contribution. Two instructive examples only are shown. Group V, figure 11, shows a simple blue-domed cyst. The wall is everywhere thickened and the entire circumference of the cyst is an uninterrupted carcinomatous growth. The impression from the microscope is very distinct that this growth did not begin at one point and spread throughout the cyst, but that the entire cyst wall underwent a carcinomatous change at about the same time. It presents a fascinating suggestion of Gye's hypothesis. The cells lining the cyst wall had long been diseased from pressure. Had they produced a specific factor, so that, later, on the arrival of an infecting agent, the entire cyst wall became a carcinoma?

Fig. 8. Group III. Stasis and dilated ducts showing skin, nipple, duct cone, and breast, with a carcinoma under the arrows. Numerous dilated ducts lead down to the carcinoma, some in the malignant tissue.

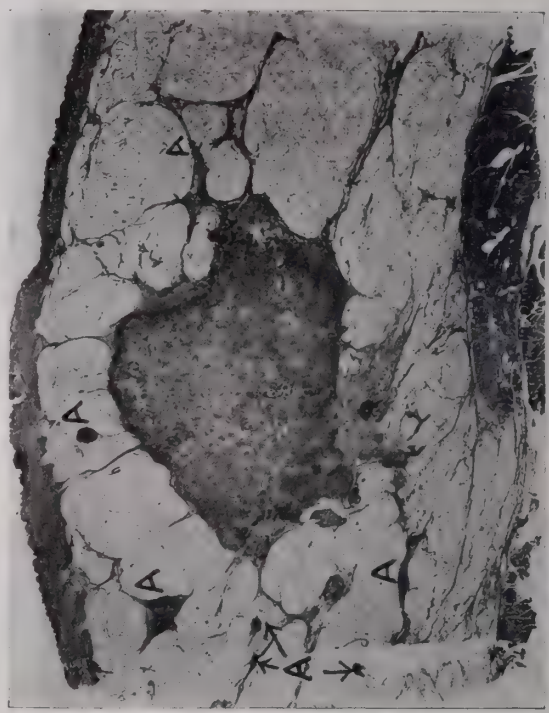

Fig. 9. Group IV. Spread by connective-tissue septa, showing skin, tumor, and muscle. Connective-tissue septa with many nodules (*A, A, A,* etc.) formed by escaping carcinomatous cells.

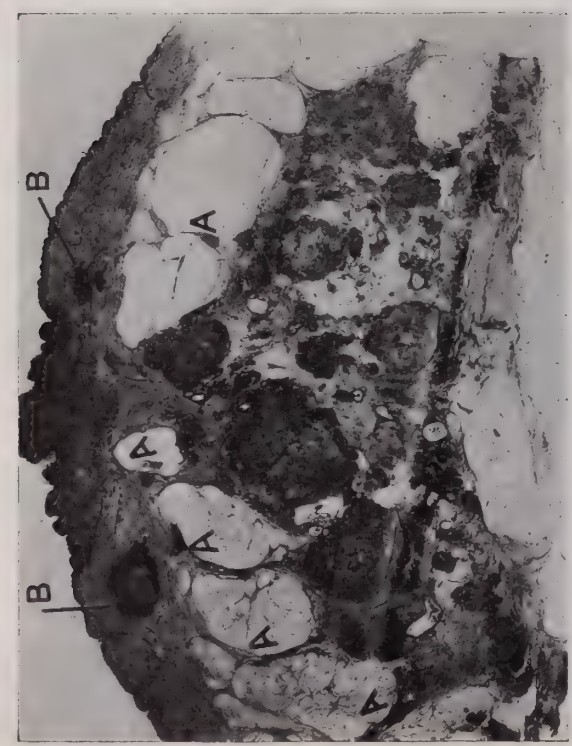

Fig. 10. Group IV. Spread by connective-tissue septa, showing skin, nipple, and breast, nearly completely filled with carcinomatous growth. At *A, A, A,* etc., are septa distended with escaping carcinomatous cells. At *B, B* are subcutaneous nodules formed from cells brought up by near-by septa.

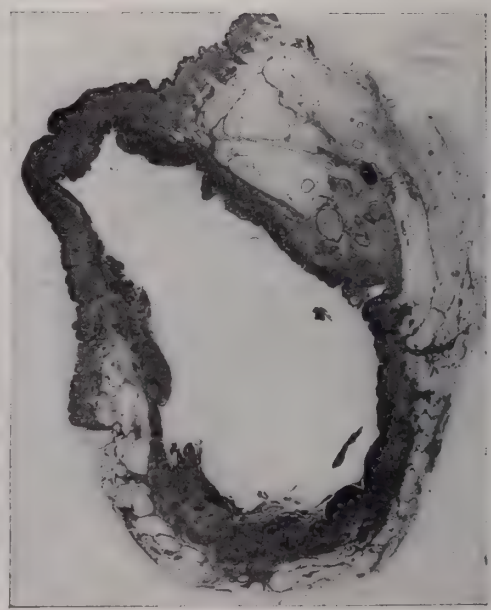

Fig. 11. Group V. Benign tumors becoming malignant, showing skin, nipple, and a "blue-dome" cyst. The entire thickened wall is the seat of extensive carcinomatous growth.

Group V, figure 12, shows a small typical scirrhous carcinoma. Unfortunately, the reproduction does not show conditions well. However, on close inspection, one can see that the center of this carcinoma is a little lighter colored. The microscope clearly shows that at the center of this carcinoma lies a typical intracanalicular fibroma which undoubtedly gave rise to the carcinoma at the core of which it lies.

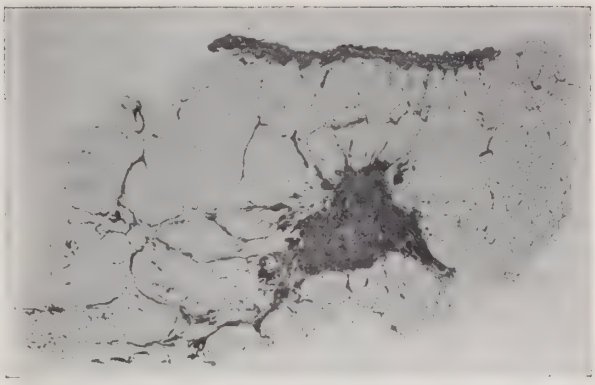

Fig. 12. Group V. Benign tumors becoming malignant, showing skin and a carcinoma below. The reproduction does not show the condition well, but close inspection shows that the center is more lightly stained and less "rough." This central core is a typical intracanalicular fibroma, which is undoubtedly the origin of the carcinoma.

Summary

Reproductions in actual size are given of slides which show practically the entire breast, overlying skin, and underlying muscle, and are sufficiently thin to be well studied by the high power of the microscope, so that all statements can be proved. These slides demonstrate: (1) Involvement of both pectoral muscles, unappreciable clinically. (2) Multiple malignant tumors. (3) Stasis and dilated ducts leading to carcinoma. (4) Spread of carcinoma by connective-tissue septa. (5) Benign tumors becoming malignant.

DEVELOPMENT OF THE MODERN OPERATION FOR CANCER OF THE BREAST

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There is nothing new under the sun, and especially is there nothing recently new in the treatment of cancer of the breast. Yet we have made very definite progress in the past half century, though the results are still far from all that could be desired. The various principles added one by one to the operative technic have so improved it that now the procedure is about as thorough as it can be made. Nevertheless, the mortality is very small, and should not be more than two per cent. When this is considered, and also the fact that the modern operation, if correctly done, in no way impairs the usefulness of the arm, and that surgery has remained the best method of effecting the cures that are possible today, radical breast surgery for cancer, or better still for precancerous lesions, is more than justified.

The development of the modern operation is a cosmopolitan achievement in which, however, American surgeons have played a prominent part. Thomas Moore, of England, one-time surgeon to the Middlesex Hospital, was the first to show (in 1867) that, in its beginning, cancer is strictly a localized process. To him belongs the credit of first laying down certain of the principles of the modern breast amputation for carcinoma. In a paper* entitled "On the Influence of Inadequate Operations on the Theory of Cancer" he insisted that the entire breast, with the skin, fat, pectoral fascia, pectoral muscle, and enlarged lymphatic glands should be removed in such a manner as not to cut into or even reveal the growth, the diseased structures being removed *en masse*. Moore's pioneer work, unfortunately, went the usual way of that of a "prophet in his own land," and it was taken up in Germany rather than in England. To him, nevertheless, should go the credit of beng the "father of breast surgery" rather than to that distinguished surgeon of the American school, Prof. W. S. Halsted. There can be no question, however, that Halsted's work standardized the modern procedure in nearly all of its essential details.

Among those in Germany who were quick to appreciate the epoch-making work of Moore and whose own work, especially from a pathologic viewpoint, greatly furthered the cause of breast surgery, the names of Volkmann, Keuster, Heidenbain and Billroth will always be justly remembered. To these names, those of Grossmann and Rotter in more recent years must be added as establishing even more firmly the pathologic reasons for removing the pectoral muscles as a routine when dealing with cancer or potential cancer of the breast.

S. W. Gross was the first American to be impressed by the German school, and to him belongs the credit for stimulating much of the interest in this subject which it has since attracted. In the late seventies and early eighties his voice was about the only hopeful one to be

Trans. Royal Med. Chir. Soc., Vol. I, 1867.

heard among the American surgeons. In his earliest work Gross obtained only about nine per cent of three-year cures, but this at a time when his contemporaries were curing none. In fact, the most famous of these contemporaries openly stated that he had removed "a cartload of breasts and had failed to cure one," pessimism that undoubtedly did almost as much harm to the cause of breast surgery as the optimism of Gross did to further it.

It is easy to understand why Gross cured nine per cent when others of his time failed. To quote from his monograph on *Tumors of the Breast,* "In the old operation the nipple and a portion of the skin are included in two oval incisions, the flaps are raised, the mamma is then rapidly dissected or torn from the pectoral fascia, the vessels are secured, a drainage tube is inserted, and the edges of the wound are united with sutures. The surgeon congratulates himself upon having done a neat bit of work and the patient is pleased with the rapidity of her recovery, but beneath the flaps so neatly apposed are hidden the germs of recurrence in the fat and pectoral fascia that remain behind and in the lobules which I have more than once seen operators overlook,....." In his own technic, Gross was careful to remove the entire breast with all of its overlying skin, leaving a large wound, a part of which had to close in by granulation. When to this procedure, radical for its time, he added a routine axillary dissection and his three-year cures jumped from nine per cent to twenty per cent, he again took one of the most important steps toward the operation as it is done today.

Sir Mitchell Banks of Liverpool also was doing an axillary dissection at this time, and he removed about as much of the overlying skin as Gross. Banks, however, was usually able to close his wounds because of the extensive undermining of the skin edges, another principle which has become a part of most modern technic. Banks cured twenty per cent of his cases—results practically the same as those of Gross. Both men did good axillary dissections, as good as could be done with the pectoral muscles *in situ.*

Up to the early eighties, the best results on the continent were probably those of Keuster, of Germany, who achieved twenty-one per cent of three-year cures. W. T. Bull, of New York, next published his results, reporting twenty-nine per cent of cures, following about the same operation as Gross, Banks, and Keuster. In 1894 W. S. Halsted first published his technic, adding the routine removal of the pectoral muscles and doing a block dissection of the gland, fascia, muscles, and axillary contents. His results, thirty-four per cent of three-year cures, were the best published up to that time. Willy Meyer, whose long and active interest in this subject has done much to advance the cause of breast surgery, quite independently and at the same time, also advocated the routine removal of the pectorals. Since that day the most original and also the most important contribution to this subject has been that of W. Sampson Handley, of London, who advanced the permeation theory. No modern operation can be said to be complete which does not take into account the painstaking pathologic work which he has done, showing beyond reasonable doubt that carcinoma spreads not only to the lymphatics but along fascial planes as well. His results are good; better than Halsted's; namely, forty-eight per cent of three-year cures.

In 1908 my father first used the technic which since has become known by his name. In it he combined all the proven principles of the day, and distinctly improved the Halsted technic, in that the axilla is attacked first and through an incision which does not leave a contracting scar to bind down the arm, or at least to interfere greatly with its normal usefulness. In several hundred breast amputations by this method, I have never known of a woman who could not use her arm as well afterwards as before. By attacking the axilla first, the surgeon has the advantage also of learning of the operability of the case in question and being able to ligate some of the blood supply at its source, thus saving a considerable amount of the blood lost when this is not done. This technic has not been changed in the twenty years that have elapsed since.

In 1915 Francis T. Stewart, of Philadelphia, brought out his technic. This has the advantage of leaving a transverse scar, but lacks, in my opinion, the great advantage of attacking the axilla first through a separate incision.

So far as I know, among the best published statistics are those of my father; namely, seventy-two per cent of three-year successes and fifty per cent of five-year cures. While our present-day conception of a cure of cancer of the breast is somewhat different from the three-year cures of Volkmann, the few statistics quoted will serve to attest the progress that has been made. Five-year cures are known now to be none too reliable, but may be taken with much greater security than the former three years of Volkmann. It has required fifty years for surgery to lay claim to fifty per cent of five-year cures. My own conviction is that the limit of operative technic has been reached, and that the ultimate hundred per cent of cures must wait upon the discovery of the exciting cause of cancer and its treatment

probably by less destructive means than surgery. In any event, a certain amount of optimism is justified even at the present time. The prohibitive mortality of pre-antiseptic days has been reduced from fifty per cent to one or two per cent; the morbidity, especially in the function of the arm, has been reduced to a minimum; local recurrence has been reduced from eighty-five per cent to none; and five-year cures have been increased from none to fifty per cent.

Medical Arts Building.

MALIGNANT TUMORS OF THE BREAST

Amputation Without Removal of the Muscles

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There is not a physician in this audience who will admit that he is satisfied with the results of the radical operation for carcinoma of the breast. This statement is made with the appreciation of the many circumstances which influence the patient to apply for operation, frequently too late, and often because of a procrastinating doctor.

Recognizing, as we do, the circumstances surrounding our failures, such as late operation and the varying degrees of malignancy resident in each tumor, even in the case regarded as favorable for operation, the number of ultimate cures has not been encouraging. Take, for instance, the young woman between the ages of 25 and 35 with an insignificant nodule in the breast. A diagnosis of cancer is made, the breast is removed, and after a thorough operation metastasis to the lungs or spinal column develops a few months later.

Though I deprecate the failures of the radical operation, I do not want it understood that I do not advocate this type of operation for the majority of patients with carcinoma of the breast. However, I do not perform it in every case. With added experience, one becomes more selective of the type of operation to be performed. Frequently the advocate of a certain type of operation and his description of the technic is misunderstood. Therefore, I do not wish to convey the idea that I recommend elimination of the radical operation for carcinoma of the breast. My pessimism concerning this procedure was shared by Murphy, who expressed himself often on this subject, and no less an authority than Handley deprecates the use of the operation for carcinoma of the breast which effects quick healing without much benefit to the patient. After advocating his very radical operation he says, "its results have been very instructive and on the whole very satisfactory, though they have fallen short of my hopes."

The history of the development of the modern breast operation is interesting. With Velpeau and Warren we have the beginning of definite operative procedures for diseases of the breast. All the operations as now performed on the breast are modifications of the Warren operation. Halsted, Rodman, and Murphy have contributed valuable information on the technic of breast operations for malignant conditions. Halsted removed every vestige of malignancy with meticulous care, and those who have used the Rodman operation can attest to its universal applicability. To Murphy must be accredited the fact that he advocated conservatism in the preservation of the pectoral muscles. He removed the pectoral fascia, but bisected the muscle so it could be used in a plastic and protective manner for the axilla. He believed that less swelling of the arms followed this step of his operation.

Our technic in suitable cases consists in the removal of the breast only. No special effort is made to take away the fascia. If glands are palpable they are removed, but the axilla is not disturbed if there are no glands that can be felt. The incision as recommended by Stewart is the one used more often than any other, because the scar is parallel with the long axis of the body and the procedure is very efficient in the quick removal of the breast alone. The Rodman operation is the one of choice for radical removal of the breast.

The patients for whom the conservative operation is suitable are: (1) Those between the ages of 55 and 80. Below the age of 55, they must be selected with great care. (2) Those with ulcerating breasts and with known metastases to the glands of the axilla. These cases must also be individualized, the main factor being that the breast must not be adherent to the chest wall. The object of the operation is to remove an annoying and foul-smelling mass. (3) Those with neglected tumors causing pain, with metastases to the lungs and spinal column. (4) Those with rare malignant conditions of the breast not carcinoma. (5) Those with bilateral carcinoma of the breast or early metastasis to the other breast. (6) Those with chronic cystic mastitis, or on whose breasts multiple operations have been performed for the excision of recurrent tumors.

Cases unsuitable for the operation for removal of the breast alone are those occurring between the ages of 25 and 55.

No hard and fast rules can be formulated, because conditions may arise necessitating an entire change in the disposition of the case. However, the conservative operation has a distinct field in cases in which cancer develops late in the fifth decade and thereafter. The reason for this, as pointed out by Murphy, is the "connective tissue encapsulating response" of the tissue to carcinoma. There is, in other words, a "cofferdamming" of the affected area by dense fibrous tissue. This is a natural sequence in thin subjects or those advanced in years.

Numerous breasts have been unnecessarily sacrificed through design or error on the part of the surgeon. Many showed no malignancy at all. It is understood that such cases cannot be classed among the cures following the radical operation. Often the family physician comes to rash conclusions the moment a mass is felt; very often there is no tumor at all, while in other instances the tumors are benign. Frozen sections should always be made at the time of operation. Errors may occur, but dependable diagnoses are secured by those well versed in this method of examining specimens.

The development of the idea of removing the breast only, without the muscles, took place about four years ago when a case of cystic sarcoma of the breast (see illustrations) in a spinster about forty years old was treated. She had a fungating mass which had broken through its capsule and the skin two days previous to admission. At this time she was sent into the hospital by her family physician for uncontrollable bleeding from the ulcerated mass. The growth was noticed six months before admission to the hospital. She was operated upon the same day. The breast alone was removed because of her poor physical condition and the presence of a secondary anemia. There were no palpable glands in the axilla. While the brilliant ultimate recovery of this patient gave food for thought, it required almost two years to put into practice a procedure which we thought could be considered feasible in some cases.

Case Reports

In February, 1925, a negress aged 30 came to us with a lump in the breast of nine weeks' duration. There were palpable axillary glands, and therefore the radical operation was performed. In March of the same year, two weeks after her discharge from the hospital, she noticed a lump in the left breast. That this mass was not present at the time of the primary operation is certain, because, in these patients, both breasts are always thoroughly palpated. Upon examination, a fairly large mass was felt near the nipple with some retraction of the same. There was no axillary involvement. Only the breast was removed on account of her recent serious operation, and because of the fact that there were no palpable lymph nodes. We had many misgivings after this operation, but it was thought that inasmuch as this case seemed hopeless, it was needless to subject her to another radical operation. This patient has been coming to our follow-up clinic regularly without any signs of recurrence up to the present time.

The next case is that of a spinster 66 years old. Her history showed that for two years she had a watery discharge from the nipples, and for a year she had noticed a small lump in her breast. The axillary glands were not enlarged. The pathologist reported absence of normal breast glands, infiltration of abnormal epithelium throughout the fibrous stroma, and cells that were fairly active.

A woman 57 years old noticed a lump in her breast six months before admission and kept the knowledge of its presence to herself. The x-ray revealed a suspicious metastasis to the lungs and spinal column. In such cases, it is obviously unwise to subject the patient

Table of Cases

Name	Age	Social status	Duration of disease	Breast affected	Character of operation performed	Pathologic diagnosis	Result	Date of operation
N. H.	39	Single	6 months	Left	Breast alone	Cystic sarcoma	Cured	7/19/23
B. E.	30	Married	5 weeks	Left	Breast alone	Adenocarcinoma	Cured	4/3/25
R. R. L.	50	Married	8 years	Left	Breast alone	Ulcerative medullary carcinoma	Died 6 months after operation	4/1/25
L. A.	66	Single	2 years	Left	Breast alone	Carcinoma simplex	Cured	11/9/26
C. S.	57	Married	6 months	Left	Breast alone	Medullary carcinoma	Died 6 months after operation	10/6/26
E. P.	52	Married	6 months	Left	Breast alone	Chronic cystic mastitis	Cured	2/5/26
R. P.	70	Widow	1 week	Left	Breast alone	Adenocarcinoma	Cured	5/7/26
M. W.	65	Single	18 months	Left	Breast alone	Adenocarcinoma	Cured	10/29/25
B. B.	76	Widow	4 weeks	Left	Breast alone	Medullary carcinoma	Cured	2/2/26
Y. G.	44	Married	5 years	Left	Breast alone	Chronic cystic mastitis	Cured	8/18/27

Note the marked regularity with which the left breast was involved. "Cured" indicates that the patient is well at time of writing, with no metastases and no recurrences. The time is much too short to apply the full meaning of the word "cured" as we understand it as applied to breast cases.

to an extensive operation. Rather, we depend greatly on the beneficial influence of the x-ray to retard and abate metastatic growths. More will be stated about the use of the x-rays later.

A woman 70 years old was operated upon one week after she noticed a mass in her left breast, the conservative operation having been performed. Pathologic examination revealed abnormal epithelium in clumps, and there was considerable fibrous overgrowth and intense infiltration. The pathologic diagnosis was adenocarcinoma of the breast.

For some weeks a woman 52 years old had noticed a lump in her breast without pain or tenderness. There were no lumps under the arm and no glands were involved. This was a case of chronic cystic mastitis. The interglandular structure showed considerable fibrous overgrowth.

Another patient was cognizant of a mass in her breast but withheld the fact from her physician, her son-in-law, and went to Europe. When she returned six months later there was a marked tumor of the breast present. The x-ray showed a suspicious metastasis to the lung and spinal column. She had a medullary carcinoma of the breast with enlarged axillary lymph nodes. She was given heroic x-ray treatment, but died in the course of a few months after operation.

A mill worker aged 66, a spinster too modest to consult a doctor, had noticed a lump in her breast eighteen months before she consulted us. The left lung and the fifth dorsal vertebra also showed metastasis. The axillary nodes were not palpable. The pathologist reported adenocarcinoma of the breast.

A patient who came to us with an ulcerated breast had noticed the first mass eight years before. The primary tumor grew rapidly, and swelling of the arm followed. This was a case of medullary carcinoma.

The oldest patient in the group was a woman of 76 years. She noticed a lump in her breast four weeks before consultation with her son-in-law, a physician. She complained of pain in her left breast and shoulder. The lump grew rapidly. Here, as in the previous cases, the breast alone was removed. The pathologic report was medullary carcinoma.

Fig. 1. Cystic sarcoma of the breast. Note that the tumor has broken through the capsule and skin.

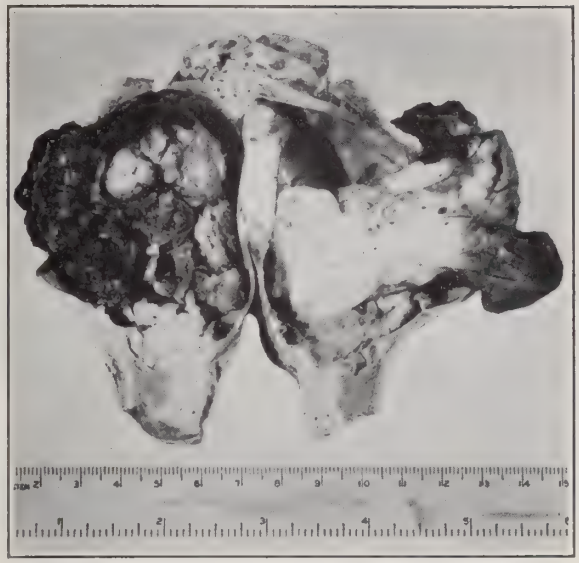

Fig. 2. Cystic sarcoma of the breast. Same case as figure 1. The breast bisected.

A patient who has been under observation for years has had recurring cysts in both breasts, and has undergone many operations for their removal. However, when the last one appeared, it was deemed advisable to remove the breast alone.

We advise with a competent radiologist, and fortify ourselves with x-ray treatment. Reports are received before operation concerning the condition of the lungs and spinal column. Preceding operation on malignant tumors of the breast we direct that radiation be used. After operation the patient is cautioned to take x-ray treatments for at least two years. There is some difference of opinion concerning the beneficial influence of the x-ray in helping to maintain the health of the patient, but we are not doing our full duty if we do not insist on a treatment or two before operation and the use of this measure as outlined above after operation. In a recent paper, Pfahler and Widmann have shown the beneficial effects of the rays before and after operation for carcinoma of the breast.

In conclusion, it should be remembered that the conservative operation must be used with great discrimination. The cases that may be considered suitable for this operation can be selected only after a wide experience with breast tumors. While the conservative operation has a place in surgery, the majority of malignant tumors of the breast demand the radical operation. We advise and urge that x-ray treatment be given by a competent radiologist before and after operation for malignant tumors.

1738 Pine Street.

END RESULTS IN AMPUTATION OF THE BREAST FOR CANCER

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Late results or end results of any operation can be determined only by the most diligent following up of the patients and the most careful tabulation of facts. The conclusions set forth in this paper are based on an analysis of 308 consecutive operations performed by the author more than three years ago for extirpation of the breast for cancer. Of these 308 patients, it has been possible to trace 247, exactly 80 per cent of the cases.

Operative Mortality

The operative mortality in these cases was 1.3 per cent, death being attributable in 4 cases to the operation.

Late Results in the 247 Cases Traced

The patients known to be living and well number 46 (see table 1). Those known to have died of diseases other than cancer, at periods varying from three to twenty-one years after operation, number 22 (see table 2). There were 16 living and well when last heard from, more than three years after operation (see table 3). Of the 247 patients who have been traced, therefore, 84 (34 per cent) have remained well for three years or more. Inspection of the tables will further show that 71 (29 per cent) of these patients remained free of recurrence more than five years.

Involvement of Axillary Glands

Of the 247 traced cases, the question of glandular involvement is definitely known in 237 cases. In 153, glands were involved. In 84, there was no glandular involvement. Of the 153 patients with glandular involvement, 32 were cured (21 per cent). Of the 84 without glandular involvement, 55 were cured (65 per cent). A patient, therefore, has a trifle more than three times as great a chance for cure if operated upon before the glands have become involved than she has after secondary invasion has occurred.

A surprising fact is the great length of time which elapsed between the discovery of the growth and the advent of the patient for operation. In 223 cases in which this period is noted, the average length of time for which the growth was known to exist was *one year, five months,* and *five days.* Nearly a year and a half on the average is entirely too long for growths to be carried with the patient's knowledge. This time will be shortened only when physicians appreciate the importance of early operation, and impress it on their patients and on the public at large.

A critical examination has been made of these cases variously arranged in groups according to the known duration of the disease. It was fully expected that it would be shown by this examination that the sooner the patient applied for treatment, the higher was the percentage of cure. It has been said that "statistics can be made to prove anything," and it must be confessed that every effort has been made to prove the above contention from these statistics, but without success, the cures in 70 patients who applied for treatment from 1 to 13 years after the growth had been noticed being 11 per cent higher than in the 153 patients who came for operation within the first year after the mass had been discovered. The only explanation of this apparent anomaly is that the growths which had existed for a number of years were less malignant and, being slow to change, encouraged their hosts to postpone operation. Whereas the patients who came to early operation had growths of more malignant nature and rapid growth.

The value of x-ray therapy (superficial and deep) and radium cannot be adequately determined from the end results of these cases, for the following reasons: (1) Only 33 of these patients were subjected to this treatment. (2) The great variation in degree of malignancy, as shown by the duration of the disease before operation, vitiates any opinion as to the curative effect of the treatment. (3) The difference in the number of treatments and the periods at which they were given, makes it very difficult to secure uniformly correct conclusions as to their value, considering the great diversity in the therapeutic requirements of different cases.

Table 1.—Patients Living and Well

No. of Patients	*Time After Operation*
1	26 years and more
1	24 " " "
2	23 " " "
1	21 " " "
2	19 " " "
2	18 " " "
2	17 " " "
4	14 " " "
5	13 " " "
6	12 " " "
2	11 " " "
3	10 " " "
3	9 " " "
1	8 " " "
1	7 " " "
3	6 " " "
2	5 " " "
2	4 " " "
3	3 " " "
46	

TABLE 2.—PATIENTS KNOWN TO HAVE DIED OF DISEASES OTHER THAN CANCER

No.	*Disease*	*Time After Operation* *Years*	*Months*	*Age*
1	Arteriosclerosis	5	10	66
1	Arteriosclerosis	3	5	69
1	Apoplexy	17	2	69
1	Apoplexy	10	2	82
1	Apoplexy	4	9	50
1	Acute Bronchitis	5	10	
1	Asthenia	4	9	66
1	Accident	7	0	79
1	Accident	4	2	53
1	Cirrhosis of Liver ..	9	10	75
1	Hemorrhagic Measles	11	8	51
1	Peritonitis	7	6	63
1	Myocarditis	21	0	86
1	Myocarditis	20	0	68
1	Myocarditis	5	11	48
1	Pneumonia	16	0	88
1	Pneumonia	16	0	54
1	Pneumonia	12	0	
1	Pneumonia	10	3	73
1	Pneumonia	9	0	74
1	Pneumonia	6	7	81
1	Rheumatism and Nephritis	6	9	68
22				

Something, however, can be learned from a careful consideration of these 33 cases. It may be premised: (1) that the cases were in no sense selected, and were almost consecutive; (2) that the treatment was given by competent radiologists; (3) that, in almost every instance, the patients came for treatment strictly according to directions.

As to the results secured, it may be said: (1) that of the 33 patients treated, 25 died of cancer and that their lives did not seem to have been prolonged by the treatment; (2) that this result of 25 per cent of living patients does not compare favorably with the 35 per cent of cures in which no x-ray or radium was used (214 patients, with 76 considered cured by operation alone).

Personal observation of cases subjected to postoperative deep therapy within a recent period has not served to increase our confidence in this therapeutic measure. It has seemed to the writer that, when a patient has had a satisfactory operation, a normal recovery, and good hope of a cure (even if such hope is founded on but a 34 per cent expectation of life), it is an unnecessary cruelty to subject her to persistent reminders of her disease.

In the effort to estimate the value of amputation of the breast for cancer by the end results, the natural history of the disease must be considered. In this series of cases, cancer has been known to end the life of a patient in less than three months from the discovery of the mass in the breast. In another case the patient is recorded as having died of the disease twenty-two and a half years after its inception. These cases are by no means exceptional; for we find eight cases which have run their course within nine months, and four patients who have been known to harbor the disease for more than fifteen years and die of it at last. The conclusions we draw, therefore, of the curative value of surgery may be very fallacious; for many of the patients we think we cure by operation may be affected by the slow-growing variety, and even without treatment would have eked out a wretched existence till the intercurrent disease arrived to put an end to their sufferings.

This is a problem which we have not yet been able to solve, even with the aid of the expert pathologist; for, in our experience, he has not been able to make the examination of the specimen tally with the course of the disease except in the extremely well-marked cases, the vast majority being simply designated by the cancer group which he sees under the glass.

The resistance of individuals to cancerous disease is a matter as yet impossible of demonstration. It has, however, a very positive bearing on the course of the disease and the results of operative or other treatment. Till this matter of resistance shall have been worked out, statistics of cures by operation will remain open to suspicion.

SUMMARY

(1) The end results of amputation of the breast for cancer in this series of cases fully justify the operation, because a certain proportion of patients are apparently cured per-

TABLE 3.—PATIENTS FREE FROM RECURRENCE WHEN LAST HEARD FROM BUT RECENTLY LOST TO VIEW

No. of Patients	*Last Heard From After Operation* *Years*	*Months*
1	14	10
1	14	3
1	13	5
2	13	0
1	11	7
1	8	8
2	8	0
1	7	7
1	7	2
1	6	0
1	5	10
1	4	10
1	4	0
1	3	4
16		

manently; 34 per cent are known to have remained well or died of intercurrent disease at periods varying from 3 to 26 years; and 29 per cent from 5 to 26 years.

(2) The end results in cases not cured are still favorable, because in a very large proportion there is no external recurrence, and the internal metastasis, being unseen, and comparatively or entirely painless, may leave the patient in ignorance of the nature of her disease and hopeful to the end.

(3) The end results are strongly influenced by operation before glandular metastasis, the chance of cure being three times as great before this occurrence.

(4) The end results are not materially, if at all, influenced by x-ray or radium treatment.

(5) No statistical results of operative or any other treatment can be regarded as definitely proved till some method shall have been devised to gauge the resistance of the individual to cancerous disease.

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Phases of Syphilitic Therapy*

THE PRACTITIONER AND THE TREATMENT OF NEUROSYPHILIS†

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The progress of modern syphilology has revealed, with a clearness at once striking and disconcerting, the threat which syphilis makes against the individual patient as distinguished from the race. The two strongholds of the disease, syphilitic involvement of the nervous system and syphilis of the cardiovascular system, are still unconquered territory in the possession of the enemy to a degree that should arouse our fighting pride as legionaries in the battle against bodily ills. It is upon the rôle of the practitioner as a legionary in the conquest of neurosyphilis that this paper will especially dwell.

No disease illustrates better than syphilis the need for a shift of viewpoint in the training and practice of physicians, from consequences to forerunners, from remedial to preventive measures, from the late and obvious signs to the still, small, and obscure beginnings of disease processes. In the control of neurosyphilis this issue is critical, and upon it rests the whole future of this phase of the campaign against the disease. Instead of teaching neurosyphilis to the medical student as tabes and paresis, it must be taught to him in an anticipatory way, as a percentage factor in all cases of syphilis seen in the primary and secondary stages, as an occult and symptomless affair, detectable only if search be made for it, and recognized then only by procedures which have had relatively little currency in the past, and which form an unwelcome but unavoidable addition to the technical problem of managing the disease from the very first day of its onset. This refers, of course, to the more intensive methods of treating syphilis, and to the spinal-fluid examination as the most important means of detecting neurosyphilis in its period of greatest response to treatment.

As in every preventive aspect of syphilology, diagnostic and therapeutic, the practitioner occupies the strategic post in the most direct contact with the enemy. He is the man to whom the patient comes with his chancre and his secondary eruption. He is the man from whom the patient will and should receive his routine treatment. The more completely the mechanics of treatment can be placed in the hands of the practicing physician, the more syphilitic patients will be effectively treated. The more the supervising and deciding aspects of treatment methods and problems can be left in the hands of experienced syphilologists and special clinics, the more intelligently, let us hope, will the whole campaign, as well as the individual patient's problem, be directed.

Time is the stuff of life, and nowhere more acutely so than in syphilis, where a day's delay may mean irreparable damage, and a year may place a hopeful case permanently in the discard. Who is the man that can conserve time in the management of neurosyphilis? It is, of course, the man at the front, whose alertness to the situation leads him to recognize involvement of this group of structures at the earliest possible moment, and to apply the most effective treatment. Again the practitioner is the pivotal point of the campaign. Treatability in neurosyphilis is a function of the time at which the complication is recognized and effective measures begun. Neurosyphilis as it has been known heretofore is largely a controllable aspect of the disease, even today. It can be all but extinguished by a determined effort on the part of the practitioner and a full utilization of the diagnostic and therapeutic resources against it. If cerebrospinal syphilis, tabes, and paresis occupy the same relation to the general mortality and morbidity of syphilis fifty years from now that they do today, the fact will mark the failure of

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teachers of syphilology to reach their goal, and of the practitioner of everyday medicine to measure up to his responsibilities.

The outstanding facts about neurosyphilis that apply to the work of the practicing physician may be summarized as follows: Involvement of the nervous system is not a late consequence, but a very present and immediate fact in twenty-five to thirty per cent of patients who present themselves with the disease. In all probability, all patients who acquire syphilis suffer some invasion of the nervous system, while, to borrow Belote's phrase, only a part show involvement, or, to use the writer's phrase, react to it. It may be expected, then, that from six to nine out of ten syphilitic patients will sustain spirochetal invasion of the nervous system; one patient in four will develop important neurosyphilis; one in ten will develop serious neurosyphilis; and one in twenty will develop refractory or even fatal neurosyphilis, even under vigorous treatment. The decision as to whether the nervous system is involved or will be involved in a given case can never be conclusive or final. While reaction shows itself in the spinal-fluid examination in a large proportion of patients, there will always be some who will present true neurosyphilitic complications with negative spinal fluids and negative blood Wassermanns—the vascular accidents preponderating early, the slow, degenerative cord lesions and localized gummatous changes, late in the disease. Early neurosyphilis is preponderantly meningeal in character, and the increased cell count in the spinal fluid stands first as a warning of its presence. Of what use, then, is a spinal-fluid examination on a young man in whom, as often happens, only the Wassermann is reported, for the positive Wassermann is a later, not an early sign? Most meningeal neurosyphilis yields to treatment, and 90 per cent of it can be controlled by intensive measures. The simple routine of prolonged and careful treatment of the early infection with arsphenamin, mercury, and iodid for two years without rest intervals disposes of all but perhaps twenty per cent of it. Half of the remainder requires hammering and special methods. Two per cent of the resistant five yield to extreme measures. Three per cent will not respond at all.

Let the practitioner, then, disabuse himself of the notion that neurosyphilis is a rarity. He has it on his hands every day. Let him understand that he can cope with it effectively if he will use effective drugs in an effective way, and that there is no reason why he should not do so. Let him depend less on symptoms in his effort to identify it, and set out to hunt for it in the spinal fluid without waiting for it to come staggering across his threshold.

What are the earliest warnings that neurosyphilis is to be an important problem in a particular case? First of all, the presence of even slight abnormalities in the course of the blood Wassermann reaction toward negative, and in the findings in the spinal fluid. The recurrence of transient partial positives in the Wassermann curve of an early case, or of conflicting reports where both Wassermann and Kahn are done, should arouse suspicion. Too early development of a negative should put one on guard as indicating a relapsing tendency (Moore and Kemp). A slight rise in cell count in a spinal fluid otherwise negative is important if the patient has syphilis. A fixed positive or a relapsing positive blood Wassermann should never be simply repeated and repeated during a period of therapeutic inactivity. It should be amplified by a spinal-fluid examination. If, however, a patient is carrying a full program of effective treatment, the spinal-fluid examination may be postponed until the end of the first six months. A negative fluid at this time is not, however, to be accepted as conclusive evidence that neurosyphilitic complications need no longer be feared. The negative spinal fluid, like the negative blood Wassermann, does not insure the patient against neurorelapse nor prove the freedom of his nervous system from involvement.

In thus knocking the props out from under the only available therapeutic checks, I find myself obliged to reëmphasize the slogan "Treat every patient to an arbitrary maximum determined by the best experience of large clinics, and not to an individual minimum determined by his tests." If a relapse then occurs, it may be accepted with a certain degree of resignation as an inevitable consequence of our present inadequate knowledge, rather than as a result of a mistaken reliance upon criteria known to be deceptive and fallible.

Symptomatic warnings that a patient is a candidate for neurosyphilitic complications early in the disease must assume greater importance as confidence in serologic signs is affected by the repeated occurrence of exceptions in apparently well-treated cases. The following may be enumerated as suggestive symptoms: occurrence of a follicular type of eruption in the secondary stage, and of marked alopecia; persistent headaches; cerebral neurasthenic symptoms, including, it often seems, extreme and irrational syphilophobias, marked nervousness and tremor, and insomnia in the syphilitic patient; slight or transient pupillary abnormali-

ties; reflex anomalies, including especially exaggerations of certain reflexes with reduction of others; signs of cranial-nerve involvement, including especially disturbances of the cochlear or vestibular parts of the eighth, neuritis of the second, and paralysis of the seventh cranial nerves, all of which point to changes at the brain base. The following case illustrates a failure on the writer's part correctly to interpret the earliest signs of neurosyphilis, because of a false sense of security engendered by thorough treatment and a previous negative spinal-fluid examination:

M. B., a man of 27, began treatment on July 29, 1926, for an early infection whose primary phase had apparently been aborted elsewhere by a single neoarsphenamin injection, after which a positive Wassermann reaction developed, but no eruption. The patient received three courses of eight injections each of arsphenamin, with five-week intervals between courses, the arsphenamin rest periods being covered by bismuth injections, with overlap. In the midst of the fourth course of arsphenamin injections and the third course of bismuth, he developed an arsenical cutaneous complication, and treatment was stopped. The blood Wassermann reaction had then been continuously negative for one year under treatment and the spinal fluid was completely negative at the first and only examination eight months after treatment was begun.

Two months after treatment was stopped, the patient came in complaining of a drawing feeling in the left leg and stiffness in walking, which was attributed to the result of a kick in the buttock and a fall with extensive suggillation. Resting on the false security of the previous negative spinal fluid and the negative blood Wassermann reaction at the time his complication appeared, the whole affair was minimized, the patient was baked and massaged, and sent to the hospital, suspected of hysteria and malingering, until a neurologic diagnosis of slowly progressive cerebral hemorrhage, possibly the result of concussion, was made. The spinal fluid was then examined, several weeks too late, and presented a typical paretic formula—or perhaps more exactly the formula associated with vascular and parenchymatous involvement in neurorecurrence, although the blood was still negative. The response to treatment was immediate, but the residual defect was more marked than would have been the case had his physician not been lulled into a false sense of security by the previous negative spinal-fluid examination.

The spinal-fluid examination, herein urged upon the practitioner as part of his control of the onset of neurosyphilis in its treatable stages, has, then, its margin of error; yet it reveals a large proportion of involvements to which there is no other symptomatic guide. It simply shares with the Wassermann test of the blood the uncertainties that attend all diagnosis of syphilis from whatever angle approached.

To reëmphasize, the blood Wassermann test when negative is no guide to the presence or absence of neurosyphilis in a patient with early or late manifestations, no matter how often repeated or at what intervals. The fixed positive Wassermann reaction and the relapsing positive, including repeated relapses in either side of a two-phase test like the Wassermann-Kahn combination, may result from a neurosyphilitic infection, and necessitate a spinal-fluid examination. The repeatedly negative blood Wassermann reaction is absolutely unreliable as a guide to the cessation of treatment in an early case, and in trusting it, the practitioner of today makes one of his most serious mistakes in the management of early syphilis from the standpoint of preventing neurosyphilis.

Treatment at the present day is, I am coming to believe, not properly determined so much by tests as by more or less arbitrary rules which are slowly crystallizing out of the accumulated experience of the last fifteen years. Of these, the most important for the prevention of neurosyphilis are, in my estimation, that every patient with early syphilis, either primary or secondary, Wassermann-positive or negative, should be treated as nearly as possible to a standard of forty arsphenamin injections, given in four or five courses, with alternating courses of bismuth and mercurial inunctions overlapping and filling the intervals between arsphenamin courses. There should be no rest periods for at least the first year, and preferably eighteen months, and the total duration of treatment should not be less than two years, irrespective of negative blood or spinal-fluid tests. At the end of six months, a spinal-fluid examination should be made, and it should be repeated, even if negative, before any prolonged rest interval, and yearly for five years. It should be accompanied by a basic physical and neurologic examination, and an examination of the fundus of the eye.

The spinal-fluid examination should be performed *secundum artem,* and not by the inexperienced, if it is to be properly utilized in the prevention of neurosyphilis. The effect upon the patient of an improperly performed test, painful and reaction-producing, is such as completely to discourage its repeated application to his particular case. One amateurish puncture does more to defeat the modern movement against neurosyphilis than a thousand successful ones can help it forward. One never hears the end of it, and often, unhappily, with justification. The fluid from an improperly performed puncture, contaminated with blood and inadequate in amount, is not capable of yielding reliable information for the guidance of either practitioner or consultant. The slight rises in cell count are lost; only part of the tests may be performed; and the outcome of the colloidal test, of great importance in prognosis and differentiation, is materially affected.

A corollary to the proper obtaining of the spinal fluid is its prompt and complete examination by a competent laboratory. The Wassermann on 0.2 c.c. and 1 c.c., or a Kolmer quantitative test, is essential. In addition, there should be a cell count on the fresh fluid (not one shipped by mail), a globulin estimation, and a colloidal test, of which the mastic or benzoin is the more trustworthy in the average laboratory. A sugar estimation is useful in differential problems involving lethargic encephalitis. None of these tests is merely ornamental, though the globulin test, often reported without the others, has the least significance from the standpoint of neurosyphilis.

For those who must perform spinal punctures without considerable experience, the following suggestions are offered: Use a Greene point needle, which makes a small puncture and not a cut in the dura. It seems materially to reduce the percentage of reactions. Be sure, in doing a puncture with the patient on his side, to have the spine at about the level of your collar button, not above or below, or you will tend to enter at an angle. At a low bedside, sit on the floor. Try to do punctures under constant mechanical conditions. Be sure the plane of the shoulders and of the pelvis is exactly perpendicular to the floor. A dropped shoulder leads to many false passes. Never fail to guard the right hand against sudden jerks by resting it on the left. Sharpen or hone the needles before every puncture.

The Modern Treatment as Distinguished from the Early Diagnosis of Neurosyphilis. —As previously intimated, treatment can be to a surprising degree kept in the hands of the practitioner if he will develop the technical proficiency. It is precsiely at this point that the rub comes. There is an extremely important element of technic in even the simplest maneuvers. The physician who intends to do this type of work should train himself or be trained for it or give it up. The giving of even an intramuscular injection has elements of the expert procedure in it, to judge from the complaints of physicians who have been advised to use a method which is carried on day after day without complications in numbers of patients in clinics where this sort of work is done, yet which in their hands always leads to trouble. In trying to analyze these difficulties in a recent address before the Clinical Congress of the Connecticut State Medical Society, the writer gave it as his impression that lack of strict asepsis, particularly of needle and syringe; too large needles, with leak-back; failure to aspirate; failure to secure valve action with the left hand, and consequent leak-back; defective preparations; and injection elsewhere than into the upper outer quadrant of the buttock, were the chief causes of inability on the part of practitioners to apply intramuscular technic in many new methods for the treatment of syphilis which would help to keep effective management of the disease in their own hands.

There can be no question of the worth of modern intensive treatment of syphilis in preventing and arresting the neural manifestations of the disease. Fordyce, Shaffer, and I, and more recently Moore, have been able to state the outcome in percentages with a surprising degree of correspondence among our results.

There is nothing intrinsically occult about the methods; and intraspinal therapy, long the bugbear of the practitioner and the refuge of the specialist, is being displaced by tryparsamid and malarial therapy, the former, at least, available to a considerable degree, once the patient's tolerance is established, to any doctor who can give an intravenous injection. The chief problem is to make the practitioner realize the importance of technic, and to teach it to him in his formative days of medical school and hospital study. Once this issue is met, the consultant will fill his proper place as advisor and evaluator, and the practitioner will be able to carry out properly the suggestions for the management of a difficult case which his consultant makes.

In dealing with early syphilis from the standpoint of the prevention of neurosyphilis, a distrust of one new drug, bismuth, is suggested; also an earlier resort in resistant cases (as determined by spinal-fluid examination) to another new drug, tryparsamid, which has greater penetrative power for the nervous system, and to malarial and other forms of fever therapy in those cases which resist this measure. This attitude towards bismuth is due to a certain influence of impression rather than to studied data, yet it is becoming apparent on the writer's service after three years of extended use of this drug that the serologic results in early syphilis are not what they were in the days of mercury inunctions and soluble mercurial salts, and that bismuth preparations are not the infallible preventive of relapse that was hoped in 1924. Anwyl-Davies, in a recent important summary, reviews these impressions as they are developing in the syphilologic world.

The reasons for the apparent shortcomings of bismuth cannot be discussed here. The practitioner who has to deal with resistant neurosyphilis is merely urged to think back now and then, in his perplexities, to bichlorid or succini-

mid intramuscularly and the good old mercury rub, and to diversify his use of bismuth and arsphenamins with courses of mercury thus employed. Iodid in large doses cannot be displaced as yet for the newer drugs in the treatment of resistant syphilis. It is suggested particularly that when a paretic or preparetic formula appears in the spinal fluid of a patient with early or late neurosyphilis, the attempt to treat him with neoarsphenamin be forthwith abandoned and more intensive methods adopted, with special consideration of tryparsamid.

Of this drug the profession has a lingering fear which loses much of its justification with experience. To one who has used tryparsamid enough to become familiar with its behavior, the risk of complications in the form of optic-nerve damage becomes increasingly remote. Preparation of the patient by a thorough course of standard arsphenamin-mercury treatment and careful attention to his symptoms and to the objective examination of his visual acuity and perimetric fields practically eliminates eye complications in properly selected cases. After the first six or eight injections the risk disappears entirely, and for a period of years tryparsamid can be given week after week, as Solomon has shown, without the slightest complication, with marked tonic effects, and with serologic and clinical results the equal if not the superior of anything so far claimed for malaria. A very large part of this treatment can be carried out by the practitioner.

Malarial therapy under proper management is excellent, indispensable, but difficult of access for many patients with early neurosyphilis who should have the benefit of measures more radically curative than those of standard routine treatment. It has an appreciable mortality, reducible by selection of cases but unpleasantly real in practice, and entails a period of hospitalization and convalescence rather than a tonic effect. Unquestionably more effective than tryparsamid in asylum and late cases, it has not as yet proved itself superior to tryparsamid in the early case, especially when risk, expense, and incapacity must be considered.

Summary

1. The practitioner is the cutting edge of any movement against neurosyphilis. He sees it in its beginnings, and he treats it, aware or unaware. His neglect or ignorance fathers paresis and tabes.

2. He will not lean on blood Wassermann tests in evaluating this phase of the disease. A negative, or many of them, means nothing with respect to neurosyphilis, present or impending. He will treat all early syphilis to an experientially determined maximum, and not a serologically controlled minimum.

3. He will develop technical proficiency for modern diagnostic and treatment procedure—not underrate it and discard it because he cannot make it work.

4. He cannot lean wholly but he should lean much more heavily than he now does upon the properly performed spinal-fluid examination.

5. He should perform spinal puncture in a way which will make the patient cry for it, not against it, and he should insist on prompt and complete laboratory examination of the fluid.

6. He will do the cause of preventive neurosyphilotherapy no harm and perhaps much good if he does not too completely displace effective mercurialization with bismuth novelties.

7. He will think "tryparsamidly" about the resistant case and the preparetic, and will not waste time and tolerance on courses of neoarsphenamin when the grave trend of a neurosyphilitic involvement once becomes apparent.

8. He will be appreciative of but not stampeded by malarial and other forms of fever therapy.

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ERUPTIONS INCIDENT TO ANTISYPHILITIC THERAPY

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Eruptions following the use of arsphenamin and mercury have been reported rather extensively in the literature, but there still exists some doubt in the minds of many physicians regarding their importance and seriousness. It is not an uncommon experience to see patients with an arsphenamin eruption who are still receiving treatment long after the onset of their eruption, with disastrous results. The purpose of this paper, therefore, is to emphasize the various cutaneous reactions following the use of arsphenamin, mercury, and bismuth. It is important for those administering this therapy to have a knowledge of such phenomena in order to avoid serious sequelæ.

There are several theories regarding the pathogenesis of drug eruptions in general, but there is no definite reason why some persons respond abnormally and others do not. Stokes and Cathcart have shown that there is "an induced state of hypersensitiveness underlying the clinical manifestations, in part at least, from chronic or acute protein intoxication of bacterial origin, or in other words, from focal or intercurrent

infection." Klauder states that, in his experience, a large percentage of the cases of arsphenamin dermatitis occur following a faulty venipuncture, or when the drug has been injected outside of the vein. Schamberg has suggested that the simultaneous administration of mercury and arsenic may account for the cutaneous reaction to arsphenamin. His hypothesis is based on the fact that it is not the intake of arsenic, but rather the failure to eliminate it, that is responsible for the cutaneous reaction. This retention is produced by the simultaneous administration of mercury, and its resultant injury to the kidneys. However, there is difficulty in getting away from the theory of idiosyncrasy, for most cases of dermatitis are seen early in the course of treatment. There seems to be, as Stokes says, "an unescapable element of hypersensitivity or allergic instability underlying the behavior of the patient to the drug." This element of allergic instability is best shown in those patients who have suffered from some previous dermatosis, especially eczema. It is with this type of patient that care must be exercised in treatment.

Classification of the Arsphenamin Eruptions

Any attempt to classify the eruptions from arsphenamin is difficult for several reasons: (1) All types of skin lesions, from macule, papule, and wheal, to bulla, may be seen. (2) A multiformity of types of lesions may be seen in the same patient. (3) Reactions may occur early or late. (4) Mild types of reactions may eventuate in severe ones. (5) Anaphylactoid reactions may be seen early or late in the course of treatment.

For practical purposes, the arsphenamin eruptions may be classified into:

I. Mild
- (a) Urticarial
- (b) Fixed exanthems
- (c) Herpes zoster
- (d) Herpes simplex

II. Severe
- (a) Erythema multiforme
  - (1) Macular, papular
  - (2) Morbilliform
  - (3) Bullous
  - (4) Scarlatiniform
- (b) Lichenoid
- (c) Exfoliative dermatitis

III. Rare Reactions
- (a) Pigmentation
- (b) Keratosis
- (c) Purpura

Urticarial Reactions

The urticarial type of reaction following arsphenamin administration differs in no way from ordinary urticaria. It usually appears a few hours after treatment, and may last for two to three days, but usually disappears in a few hours. Itching is a marked feature. This reaction is extremely variable, and may occur one time after treatment and not occur the next time. This type is not necessarily a contraindication for further treatment.

Herpes Zoster

The herpes-zoster reaction is seen occasionally, and any nerve may be involved. I have noted involvement of the ilio-inguinal, ulnar, radial, and sciatic nerves. This eruption runs its course in two to three weeks, like true herpes zoster, and is not a contraindication to future treatment.

Fixed Eruptions

On rare occasions, arsphenamin provokes so-called fixed eruptions. They consist of one or several sharply defined, slightly elevated smooth plaques, which are red or pink in color. They have a tendency to disappear in the intervals between injections, only to reappear *in situ* after each administration of arsphenamin. Sometimes they leave no trace, and at other times a moderate grade of pigmentation. An identical type of reaction may be produced either by antipyrin or phenolphthalein, and one must always bear in mind the possibility that the patient is taking one of these drugs while undergoing a course of arsphenamin treatment. The peculiar feature of this reaction is that the lesions tend to recur in the identical areas involved after previous injections. They may temporarily subside in the intervals between treatment or may later disappear completely without leaving any trace. Since permanent pigmentation may sometimes be the sequel of this reaction, due care must be exercised as to further treatment.

Among the severer types of reactions may be included the macular, papular, bullous, lichenplanuslike, and exfoliative dermatitis. These may be seen early or late in the course of treatment. Beginning as a macular or papular eruption, at times of a scarlatiniform or morbilliform type, involving the trunk and extremities, the lesions may undergo involution in a few days or weeks. They may, however, coalesce and form a universal erythrodermia showing a branny scaliness at the outset and later exfoliative dermatitis. These macular, papular, lichenoid, erythematous, and scarlatiniform reactions should always be considered as grave and a manifestation of ex-

treme hypersusceptibility. Usually, preceding these reactions there may be itching, either localized around the flexures or in some cases generalized. Repeated constitutional reactions, such as fever, nausea, vomiting, and diarrhea, may often precede the cutaneous outbreak. Therefore, pruritus, either localized or generalized, and repeated constitutional reactions are always to be considered as a danger signal of some impending cutaneous accident, and further treatment should be administered with greatest care.

Exfoliative Dermatitis

The exfoliative-dermatitis type never appears as an initial reaction, but is to be considered as a sequel or a further state in development of the macular, papular, lichenoid, bullous, scarlatiniform eruptions, etc. It is the severest type of reaction, is indicative of extreme hypersensitiveness, and forms the classic picture of chronic arsenic poisoning. It is characterized by a generalized erythrodermia, profuse scaling or hyperkeratosis, and usually plaques of weeping dermatitis. The patients are generally very ill, and hospitalization is often necessary. Itching is a constant and annoying symptom, in fact so severe in some cases as to cause mental aberration. Fever in the early stages may reach 103 degrees, but usually settles down to a diurnal rise and fall of a septic type. It is not a constant feature, and some patients may pass through an attack of exfoliative dermatitis without any temperature disturbance. Secondary pyodermic changes, as furunculosis, folliculitis, and paronychia, frequently complicate the course of this reaction, and are a feature annoying to the patient. Diarrhea is occasionally noted, and may be quite obstinate. Chilling is present in practically every case, and the patient complains of being cold in a room too warm for ordinary comfort. Recurrent attacks of edema involving the face and legs are observed in some patients, and may be so severe as closely to simulate erysipelas. The appetite is usually poor, and there may be a secondary anemia. Due to the low state of vitality, intercurrent infection such as bronchitis or pneumonia, may set in and end fatally.

Convalescence begins at the end of the second or third month, and is marked by decreased scaling, islands of paler or normal skin, disappearance of chilling, reappearance of sweating, improved appetite, and disappearance of itching and edema. Itching may be the last symptom to disappear, because the patient has usually acquired the scratching habit. A purplish hue of the legs and edema of the feet, especially in elderly people, may be observed for weeks after the eruption has cleared. In rare cases, a complete relapse or exacerbation may occur without any further treatment or apparent reason, and the skin may continue to exfoliate for several months.

Treatment

Exfoliative dermatitis should be aborted if possible. Any erythematous, macular, papular, lichenoid, or scarlatiniform reaction, or a repeated constitutional reaction occurring during the regular course of antisyphilitic treatment should be considered as a warning or forerunner of the most severe cutaneous reaction to arsphenamin—exfoliative dermatitis. Specific treatment should be immediately discontinued and should not be resumed until the eruption has disappeared, as it is possible to convert a comparatively simple reaction into a severe one by further treatment. Alkalinization with Fischer's solution may be of value. Sodium thiosulphate intravenously, in doses from 5/10 to one gram, given daily, may be of value. Foci of infection, such as the tonsils, teeth, etc., may be removed to reduce hypersensitiveness, but this procedure should by no means be attempted until all cutaneous signs have disappeared.

In spite of all prophylactic measures, and very early in the course of treatment, even after the first injection of arsphenamin, a severe exfoliative dermatitis may inevitably occur. It is needless to mention that all antisyphilitic treatment should be immediately discontinued. Hospitalization is ideal, if practicable. Measures to relieve the severe itching, which is present in most cases, should be employed. These consist of baths made from starch, oatmeal, or bran, various lotions containing antipruritic drugs, such as menthol, camphor, and phenol, and ointments containing the same drugs. Owing to the weakened state of the patient, baths may have to be abandoned and replaced entirely by antipruritic lotions and ointments. The latter sometimes aggravate itching, and ordinary petrolatum or olive oil may have to be used.

The patient should be kept well covered in a well-ventilated room with no draft, and with a temperature around 75 degrees. Alkalinization with Fischer's solution should be employed. Alkalies by mouth may be used, but with vigilance, so as not to produce alkalosis.

Sodium thiosulphate may be employed intravenously in doses varying from 3/10 to one and a half grams in 15 to 20 c. c. of water daily, or every 48 hours. This drug was first suggested by Ravout in 1920, and later McBride and Dennie reported favorable results with it.

However, I have not found that sodium thiosulphate possesses the specificity that many have claimed for it, and poor results with it should not be a disappointment. As a matter of fact, this drug may even aggravate certain cases, and unless improvement has been noticed after a week's trial, it should be discontinued. In my experience with six cases of exfoliative dermatitis during the past two years, not one appeared to be benefited by its use, but on the other hand, three became distinctly worse after several injections. Certainly it cannot be said that sodium thiosulphate always changes a bad prognosis in exfoliative dermatitis to a good one. The x-ray, in the hands of experts, in small fractional doses at weekly intervals, may exert a markedly beneficial effect, and may reduce the duration of the disease appreciably.

It is not within the scope of this paper to discuss fully further specific treatment. Owing to the variable tolerance to the arsphenamins, a routine treatment with every patient should not be practiced. Repeated constitutional reactions and itching and cutaneous phenomena are signs of intolerance, and the dose of arsphenamin should either be reduced or the drug discontinued and in its place substituted either bismuth or mercury by intramuscular injection.

Following the recovery of the patient from the exfoliative-dermatitis type of reaction, further treatment should be given with the greatest caution. Not infrequently a relapse may occur after a single injection of arsphenamin. Tolerance in this type of patient is extremely low, and the management of the case is a problem. If additional treatment is deemed advisable, mercury or bismuth by intramuscular injection should be the medicaments of choice.

Reactions to Mercury

Mercury, like arsenic, is capable of provoking various types of reactions, which simulate the eruptions produced by the arsphenamins. Fortunately, the reactions to mercury are less common than those to arsenic. The commonest is a papular dermatitis following inunction. This so-called "rub dermatitis" may rapidly spread to other portions of the body which have not been rubbed (the neck, the axillæ, popliteals, and other flexures), or a generalized oozing dermatitis, a prototype of the arsphenamin exfoliative dermatitis, may sometimes develop.

Following intramuscular injection of mercury the whole gamut of skin lesions, except keratoses, may be produced. Among the reactions which have been reported are: urticaria; macular, papular, erythematous, and scarlatiniform reactions; stomatitis; and exfoliative dermatitis. One of the severest cases of exfoliative dermatitis that has ever come under my observation resulted from a single injection of mercuric salicylate. Incidentally, this eruption was mistaken for arsphenamin, as the patient had just completed a course of arsphenamin injections and was beginning a course of mercurial therapy. Unfortunately, three months later, after all cutaneous signs had disappeared, this patient was again given mercuric salicylate, only to have another attack of exfoliative dermatitis more severe than the first. This illustrates how sensitive some individuals may be to mercury.

Bismuth Eruptions

The commonest manifestation of bismuth poisoning is the so-called "bismuth line" that is seen on the gums. It is a slate color or gray-blue, and remains more or less permanently. It is due to a deposit of bismuth sulphite in the subepithelial connective tissue.

Since bismuth has been in use only since 1921, not many reports of untoward cutaneous reactions have thus far reached the literature. All the reports to date have occurred in the foreign literature, and among the reactions which have been reported are urticaria, toxic erythemas, herpes zoster, purpura, papular eruptions, and exfoliative dermatitis.

In my experience, only one case of a bismuth reaction has been observed. This was an exfoliative dermatitis of a most severe nature which followed eight injections of a German preparation called "bismogen." If this one case is any criterion, exfoliative dermatitis following bismuth is certainly relatively more severe than the same reaction to arsphenamin, as the duration of the eruption in this one case was ten months, with several remissions and exacerbations before the eruption cleared up entirely.

Undoubtedly the incidence of bismuth reactions in comparison with arsphenamin or mercury is much smaller, and this drug is a very valuable substitute for patients who are sensitive to either mercury or arsphenamin.

203 Comerford Building.

ABSTRACT OF DISCUSSION

On Phases of Syphilitic Therapy

Fred D. Weidman, M.D. (Philadelphia, Pa): It would seem unnecessary, in these days of intensive hygiene and prophylaxis, to emphasize the necessity for early attack upon any disease after the drive for prompt treatment of carcinoma, removal of foci of infection to prevent rheumatism, and so on. Yet the fact remains that the general practitioner should add neurosyphilis to the list of ailments which demand early, prompt, and energetic action. Syphilis is now one of the most actively investigated diseases, it is understood more fully than ever before, and it is better

appreciated that the Treponema reaches the cerebrospinal system earlier than was formerly suspected.

There is much confusion as to treatment, and much disagreement as to the effects of bismuth. In evaluating this remedy, statistics from the larger centers should be given especial heed. While the last word in the biology of syphilis has not been spoken, this should not be an excuse for lethargy.

I do not believe that there is any single factor concerned in the production of arsphenamin dermatitis to the exclusion of all others. It is probable that many cases develop because there has been some previous irritation of the skin, although this may not be essential. It is well to preserve an open mind as to the possibility of various expressions of arsphenamin dermatitis being referable to differing causes. Some may be due directly to the action of arsenic without any previous excitation.

To add to the symptoms enumerated by Dr. Whitehead, I have observed one or two cases of arsenical neuritis in connection with arsphenamin dermatitis.

FREDERICK M. JACOB, M.D. (Pittsburgh, Pa.): The six cases of arsphenamin dermatitis aggravated by sodium thiosulphate cited by Dr. Whitehead are rather amazing, particularly as a group of us in Pittsburgh have been giving this drug and have come to the conclusion that it is of great assistance in most of our cases—in practically all cases of metallic poisoning, not only arsenic, but also gold, mercury, and bismuth. McBride and Dennie recommended a dosage of a half gram as giving the best results. Dr. Whitehead suggested a dose of one-half to one-and-a-half grams. As it is the consensus of opinion that a dose of one gram is the absolute maximum nontoxic dose, it is possible that larger doses might be aggravating while doses of a half gram or less might be of assistance. Osborne, of Buffalo, has shown microscopically that crystals of arsenic can be removed from tissues following injections of sodium thiosulphate.

L. G. BEINHAUER, M.D. (Pittsburgh, Pa.): I have found that sodium thiosulphate has been very useful in skin eruptions caused by the arsenicals, and that it is just as effective when given by mouth as intravenously. It must be freshly made, as the drug tends to deteriorate if the solution stands. There is a pill of sodium thiosulphate on the market which is taken up entirely by the intestinal tract. It is claimed that the hydrochloric acid in the stomach produces a chemical reaction which deteriorates the drug.

Myers, who with Fordyce and Rosen recently reported a series of studies on the effects of arsenic upon the body tissues, claims that, so far as his work has gone, an elevation in the blood sugar with diminution in the blood chlorid is an indication of a reaction to heavy metallic poisoning. By studying these cases very carefully, he has been able to prevent reactions from arsenic, bismuth, and mercury by the use of sodium thiosulphate. My experience in two cases in which his technic was closely followed corroborates these findings.

GEORGE J. BUSMAN, M.D. (Pittsburgh, Pa.): I should like to reëmphasize the point made by Dr. Stokes about the minimum number of doses of arsphenamin required in a primary case. The standard for the U. S. Public Health Service used to be twenty-four injections. Dr. Stokes makes forty his minimum. The basis of his statement is his own experience, as well as that of Moore and Kemp and others, who in a series of cases treated with twenty-one to thirty injections reported as high as forty per cent of relapses in seropositive primary and secondary syphilis. The point should be driven home that the minimum total number of arsphenamin injections is high, and that syphilis in the primary and secondary stages especially is too frequently undertreated.

DR. WHITEHEAD (in closing): It is up to me to defend my adverse criticism of sodium thiosulphate after all that has just been said in favor of it. I use this drug intravenously in small doses and large doses three to four times a week, and sometimes daily. It has been my experience that from two and one half to three months are required for exfoliative dermatitis to clear up with or without sodium thiosulphate. Therefore, if it does not reduce the duration of exfoliative dermatitis, I cannot give credit to it and claim results for it which are not justly deserved.

FOREIGN BODIES IN THE ORBIT*

Report of Two Unusual Cases†

EDWARD B. HECKEL, M.D.
PITTSBURGH, PA.

The first case is that of a man who was engaged with some other men in making an extension for an oxygen-acetylene torch by using ordinary half-inch gas pipe. They made the fatal mistake of turning on the gas from the oxygen tank with the distal end of the gas pipe closed. The great pressure of gas caused the pipe to burst and explode. One of the men was struck. This man was seen about twenty-four hours after the explosion. There were no marks of trauma about the face, but the left eyeball protruded quite a bit, the lids were swollen, and the bulbar conjunctiva was somewhat edematous. The eyeball *per se* was negative. Ophthalmoscopic examination showed the media clear, the fundus negative, and no disturbance of vision. The supposition was that the force of the explosion through the air had produced an orbital hemorrhage. Following our slogan, however, "never to guess when it is possible to know" we had a radiogram made, which revealed the presence of a large foreign body.

Figure 1 shows an anteroposterior view; figure 2, a lateral view; and figure 3, the foreign body laid upon quadrille paper, each large square being equal to one inch, and the square being divided into tenths, which gives an exact idea of the size of the foreign body.

A search was then made for the entrance wound, which was finally located in the median line of the upper lip, just under the nose. It was sealed over, and was then so small that it seemed impossible for such a large foreign body to have

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*Read before the Section on Eye, Ear, Nose, and Throat Diseases of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 4, 1927.

†The first case is from the service of the Carnegie Steel Company; the second, from the service of the Allegheny General Hospital.

Fig. 1. Case 1. Foreign body in the orbit; anteroposterior view.

Fig. 2. Case 1. Foreign body in the orbit; lateral view.

Fig. 3. Case 1. The foreign body after extraction. actual size.

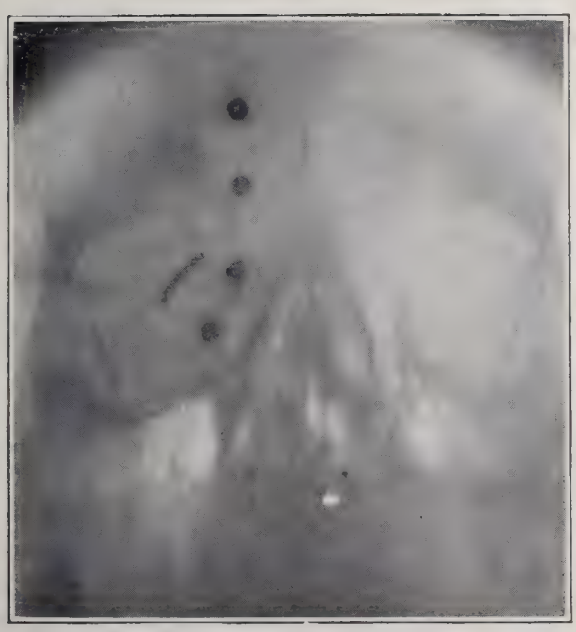

Fig. 4. Case 2. Small shot fastened on skin used to localize foreign body in orbit. Anteroposterior view.

Fig. 5. Case 2. Lateral view From these negatives it was judged that the foreign body was just within the frontal sinus.

Fig. 6. Case 2. Lateral view taken after failure to find foreign body in sinus.

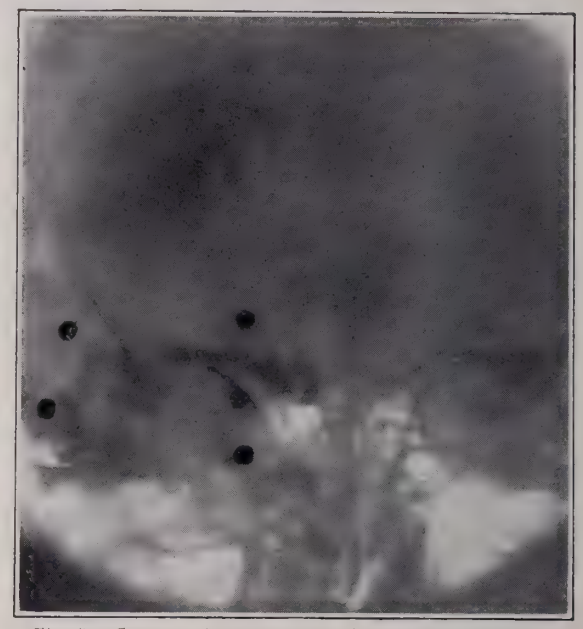

Fig. 7. Case 2. Anteroposterior view. Note bismuth paste in frontal sinus and foreign body well outside its limits.

Fig. 8. Case 2. After the second failure to locate the foreign body. Probe inserted into the orbit along its roof.

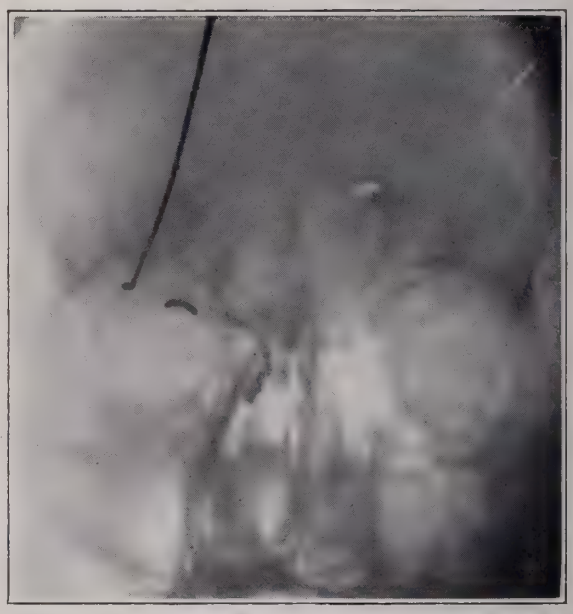

Fig. 9. Case 2. Anteroposterior view. Note bismuth paste descending into the nose.

penetrated here. A probe was inserted, and easily passed through the lip and back into the orbit.

An attempt was made to remove the foreign body by way of the entrance wound by using a Haab giant magnet. This not only failed, but the trial was absolutely negative in establishing the magnetic property of the foreign body; in other words, the giant magnet produced no effect whatever. We then tried our own hand magnet, and positively established the magnetic property of the foreign body, but failed to extract it through the entrance wound. We then made an incision over the antrum, and after some difficulty extracted the foreign body by means of our hand magnet.

The wound healed promptly, and the patient made a rapid and uneventful recovery. The hemorrhage into the orbit absorbed, the proptosis subsided, the scar on the face is scarcely noticeable, and he has normal binocular vision.

This experience again established the fact that the size and strength of the magnet plays very little part in the usefulness of the instrument. It is the saturation of the magnetic field that counts, and while the field may be large, yet the tip of the magnet must be almost in contact with the foreign body before it is effective. The foreign body itself, when within the magnetic field, first becomes a magnet before it is attracted to the electromagnet, and this force is greater the nearer the foreign body is to the electric magnet.

The second case is that of a man who was engaged at a machine, twisting brass wire, when something struck him "in the right eye."

When seen soon after the injury there was nothing to be observed except a small puncture wound below the eyebrow, in the upper inner angle of the right orbit. Palpation failed to reveal anything, the eye *per se* was negative externally, and also by ophthalmoscopic examination. A radiogram was made to determine the presence of a foreign body, and then attempts were made to localize it by more radiograms. The difficulty in making a definite localization is beautifully illustrated in the following pictures.

Small shot were fastened on the skin vertically over the entrance wound and over the temple, as illustrated in figures 4 and 5. From a study of these pictures it would seem that the proximal end of the wire, which was 64 gauge and 2 cm. long, was just within the frontal sinus. Assuming that this was correct, we entered the frontal sinus through the eyebrow and explored it, but found nothing. We then filled the frontal sinus with bismuth paste and bandaged the wound. More radiograms were made which showed the bismuth paste and foreign body. By a study of figures 6 and 7 the foreign body is shown to lie within the orbit and well outside the limits of the frontal sinus. Another attempt to remove the foreign body was made by making a curved incision in the upper inner angle of the orbit. A careful exploration was made, but the foreign body was not located. The localization did not help much to determine, or at least was misleading as to the position of the foreign body from the median line of the head. At this time we inserted a probe into the orbit along its roof, and bent it up over the forehead, where it was fastened in place by adhesive strips. The wound was dressed, and more radiograms were made.

Fig. 10. Case 2. The patient about six weeks after removal of the foreign body.

These were more helpful than any, as shown in figures 8 and 9. These figures also show very beautifully the gradual descent of the bismuth paste from the frontal sinus down into the nose.

A third and successful attempt was made to remove the foreign body through a curved incision just over the other incision at the upper inner angle of the orbit. The superior oblique at the pulley was exposed and carefully held aside, and by palpation the proximal end of the wire was located and withdrawn by means of a pair of artery forceps. The distal end of the wire was imbedded in the cancellous bony structure of the frontal bone, and it required some pull to remove it.

There was a slight diplopia on looking down, following the last operation, but it gradually disappeared after a few weeks. With this exception there was an uneventful recovery. Figure 10 shows a picture of the patient taken about six weeks after the removal of the foreign body.

Jenkins Building.

Symposium On Prostatic Obstruction*

FACTORS DETERMINING THE PALLIATIVE VERSUS THE OPERATIVE TREATMENT OF THE PROSTATE

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Since its introduction in the nineties and its gradual evolution, prostatectomy, when justifiable, has become the treatment of preference for prostatic obstruction. The great majority of all such cases may safely be brought to operation. Although surgery offers complete and permanent relief, with a low mortality, there still remain a considerable number of patients who, for one reason or another, do not come to operation, and for them palliative treatment must suffice. The essential feature of palliative treatment is bladder drainage, which may be obtained by interval catheterization, by an indwelling catheter, or by a suprapubic drainage tube. Those cases in which palliative treatment could or should be carried out may be divided into three groups.

The first group comprises those early cases in which symptoms are not aggravated. There is only mild or moderate frequency of urination, usually worse at night, and urgency to a variable degree. On examination, these patients show no residual urine or only a small amount, less than 100 c.c. The urine is not infected. The bladder has a good capacity and shows no stones, tumors, nor trabeculations. The renal function is good, and the general condition of the patient is satisfactory. These early symptoms are due to congestion of the prostate and posterior urethra. If the symptoms are annoying, they may be alleviated by appropriate palliative treatment such as hygienic measures, hot sitz baths, hot or cold rectal injections, massage of prostate, and instillations into the posterior urethra.

Operation is not definitely indicated at this time. These patients should be informed that operation may become imperative in the future, and that they must report at regular intervals for observation. If later examinations show that the symptoms are still mild, residual urine is not increasing in amount and infection, renal function is good, and general condition satisfactory, operation may be further postponed. It is quite possible that these patients may pass through their span of life without any definite indications for operation, as there is no set rate of growth for a prostate, and no one can tell how rapidly a high degree of obstruction may or may not develop.

The second group is made up of those cases in which the degree of obstruction would indicate prostatectomy but the condition of the patient is such that immediate operation would be dangerous or fatal. Many of these patients are extremely weak, chronically uremic, and tend to be drowsy, delirious, and comatose. They will require prolonged palliative, eliminative, and supportive treatment before they can be made ready for operation. Preliminary drainage by cystostomy or retained catheter, copious administration of fluids, regulation of bowels, transfusions when indicated, and digitalis will often work wonders in benefiting the general condition of these patients and will enable them eventually to withstand prostatectomy, which would be fatal if attempted too soon. The two most common conditions in this group that would tend to delay operation are renal and cardiovascular disease. The two most common renal conditions found are renal insufficiency and infection. These are due to obstruction and back pressure of urine. The treatment is the same for both; that is, bladder drainage and the forcing of fluids. This palliative treatment may continue for many weeks or even months before a satisfactory kidney balance is established. In general, it may be said that the patient whose appetite and general condition do not improve, whose phthalein excretion does not increase, whose urea does not decrease, and whose clinical record shows an irregular elevation of temperature, is not a good risk for operation. It is preferable to continue observation of these patients, with palliative treatment, until such time as the condition of the patient will justify operation.

Prostatic patients are of an age when degenerative and organic changes in the cardiovascular system are common. In many cases, the cardiovascular reserve will improve wonderfully with the general condition of the patient under bladder drainage and digitalis administration. It may happen that the treatment of the cardiac condition, such as valvular disease, myocarditis, etc., will be the reverse of treatment for the renal condition, in that fluids cannot be forced. It may be necessary in some cases to alternate the cardiac and renal treatments as the symptoms of one or the other predominate. The

*Read before the Section on Urology of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

circulatory system should be kept under close observation, and at the first sign of distress, such as edema or change in rate or rhythm, fluids should be restricted and digitalis given if it has not been used before.

High blood pressure is not the contraindication to prostatectomy it was formerly considered. Many a patient with extremely high blood pressure has safely passed through prostatectomy. Low blood pressure is apt to be more dangerous, as it may be associated with severe cardiac lesions and is often seen in patients who are undernourished and of low vitality. Their condition should be improved with supportive treatment.

Diabetes mellitus is another condition occasionally seen that will postpone prostatectomy. Medical consultation is advisable. By the use of an antidiabetic diet and insulin, the condition of these patients can usually be stabilized enough, in reference to blood sugar and alkali reserve, to permit prostatectomy. There is a greater liability to infection in these cases, and precautions should be taken accordingly.

The third group includes those cases in which operation would never be safe or would not increase the expectancy of life. Some of these patients have reached a state of organic exhaustion that may not be indicated by laboratory findings, but the serious nature of which is borne out by the dire results following operative procedures. Others have grave maladies which do not respond to or cannot be benefited by preliminary treatment. Chief among such cases are those of greatly impaired renal function which must be considered as permanent since it has not responded to prolonged preliminary treatment and is indicated by the continued unfavorable general condition of the patient, a low phthalein excretion, and a blood-nitrogen retention.

Next in importance are those severe cases of cardiovascular disease, especially myocarditis, in which compensation is difficult to maintain or other evidence is present which would indicate that the myocardium could not withstand the additional burden of a major surgical operation.

Occasionally one sees prostatism in association with inoperable carcinoma of other organs or with a general carcinomatosis. It is obvious that the short time these patients have to live could not be increased by prostatectomy. Palliative treatment probably sees its most useful field in cases of bladder-neck obstruction due to inoperable carcinoma of the prostate itself.

Pulmonary contraindications are not often seen except as part of a general uremic picture or a cardiovascular-renal breakdown. Precautions should be taken against the development of pneumonia.

Tabes is a condition that may cause urinary retention of itself, and at times it is associated with prostatism. In such cases, after careful examination, if the physician can satisfy himself that the prostate is the chief factor in the obstruction, he is justified in removing it, keeping in mind, however, that a good functional result may not ensue.

The writer has no thought of belittling the advantage and relief offered by the removal of prostatic obstruction. It is the method of choice when possible, giving relief and adding years to the life of the patient. Palliative measures are but a makeshift, and should not be instituted when there are no contraindications to a clear-cut surgical removal of the vesicle-neck obstruction.

1011 Westinghouse Building.

PRE- AND POSTOPERATIVE CARE IN PROSTATECTOMY

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Preoperative studies in prostatectomy are of vital importance. The essential factor in furthering operative safety is careful investigation of the renal, cardiac, and circulatory systems. There are many indications for prostatectomy, but the numerous contraindications to operation must be appreciated. Myocardial and renal insufficiency, marked arterial sclerosis, the various phases of circulatory change, chronic bronchial lesions such as bronchitis and tuberculosis, dementias of senility, and advanced malignant disease of the gland with metastatic involvement are the more common conditions which preclude radical operation. Age is not a contraindication to prostatectomy. Time is an all-important factor in studying cases. It is far better to allow weeks and even months for the purpose of reëstablishing proper renal elimination or toning up a weakened myocardium than to be too eager for surgical intervention.

Various tests of the renal function are definitely indicated as a part of the preoperative studies, and a thorough chemical and microscopic study should be made of daily specimens of urine and also of a twenty-four-hour collection. A simple though valuable test is the comparison of fluid intake and output. An oliguria, for example, at once calls attention to the renal organs, and further investigation will corroborate failing renal compensation. We frequently see cases with a normal output of urine, but careful

urinalysis reveals advanced kidney disease, so that quality and not quantity of the renal secretions is essential.

There are several methods which have offered reliable assistance in determining surgical possibilities. Blood chemistry to ascertain the amount of toxic retention probably offers the best information as to renal activity. Not only should the amount of nonprotein, urea nitrogen, and creatinin be worked out, but blood-sugar retention as well. Quite frequently patients are encountered who have a high blood sugar, and consequently are not safe operative risks. Phenolsulphonephthalein elimination is another reliable test, and first-, second-, and third-hour readings should be made in order to arrive at a definite quantitative equation. Cryoscopy, or the comparative freezing point of blood and urine, is a rather intricate test, though used by many researchers. Phloridzin, or the sugar test, is another check on the renal efficiency. Simple dye eliminations, such as methylene blue, lend information of value.

In a certain percentage, preliminary cystoscopy can be done in cases of prostatism, but by no means should it be included as a regular form of preoperative study. When cystoscopy is done, indigocarmin-dye elimination can be observed at the same time, and this test is very valuable. Blood chemistry and phthalein elimination are quite sufficient to determine renal function.

A complete blood count is an important adjunct in the preoperative studies, and frequently reveals certain phases that would endanger the patient at operation. A routine Wassermann is the rule in practically all hospitals today and is an important part of the study. Estimating the blood-coagulation time and typing the patient's blood furnish valuable information and save time in case of emergencies after operation.

Ingestion of large quantities of water to stimulate renal activity is advisable, as many patients are practically dehydrated when admitted to the hospital for study. Superhydration sometimes occurs when fluids are forced to excess and often is a serious phase, especially in cases of weakened myocardium. In men past the sixth decade of life it is often advisable to digitalize the heart muscle for a few days prior to operation.

Beware of too much haste in operating on the class of cases with a clear sparkling urine (the so-called sweet bladder). I would rather enucleate a prostate through an infected bladder than one of the type just described. In persistent pyuria, daily lavage of the bladder with a mild silver-nitrate solution and the administration of fairly large doses of urotropin for a few days during the preoperative stage suffices very well.

Interference or change in the normal habits of aged prostatics seems to do harm, inasmuch as one cannot teach an old dog new tricks. Suddenly to prohibit certain routine ways often lessens the patient's resistance and general morale.

Active gastro-intestinal elimination plays an important rôle, as much toxic material can be disposed of through this channel. High colonic irrigations and daily enemas are to be recommended. Some mild laxative in the form of compound licorice powder may be given each night. When there is a tendency to acidosis, glucose and sodium bicarbonate may be included in the colonic irrigation.

The one-stage versus the two-stage operation for prostatectomy is still a moot question. There are today about as many adherents to the former as to the latter. It is the author's opinion that with careful preoperative investigation and proper interpretation of the findings, the results are practically the same in both types of operation. It has been shown that many patients are more affected by the preliminary suprapubic operation than they are when the gland is removed at the second stage. If a patient can tolerate an inlying catheter for a week or ten days, it would seem that practically all prostatectomies can be done in one stage. In borderline cases a two-stage operation is advisable. If the two-stage operation is done, it is well to check the blood chemistry between each stage to determine whether the suprapubic drainage has lessened the toxic retention sufficiently that the second or enucleative stage may be performed.

When interoperative studies have shown that the nitrogen retention is still high, a permanent drainage apparatus can be applied and the patient may be allowed to return home for an indefinite period of time; in fact, until the cardiorenal system has recuperated to a degree sufficient to permit removal of the gland. In highly neurotic and apprehensive patients, a one-stage operation is advised. I have on record several cases in which the mortality would have been markedly increased if the two-stage operation had been done. Sudden relief of tension of the bladder in cases of marked retention is dangerous. It is well to decompress the bladder gradually, so as to prevent shock to the kidneys. Many types of apparatus are now available which work very nicely in emptying an overdistended bladder. Careful selection of the anesthetic in prostatectomy has much to do with successful surgical procedures. Local anesthesia is really all that is needed for the first stage. For the one-stage

operation, caudal anesthesia does very well. A half-of-one-per-cent novocain solution, properly infiltrated, will produce perfect anesthesia. At most, it should not be necessary to go beyond gas-oxygen anesthesia. Rarely, if ever, is ether narcosis necessary in prostatectomy today. Prolonged anesthesia certainly tends to impair the renal organs, and every effort should be made to conserve their eliminative powers.

The chief factors regarding postoperative care in prostatectomy depend on maintaining the cardiorenal functions. Hypodermoclysis administered to the patient before leaving the operating room often tends to buoy up the renal activity and overcome a certain amount of shock produced by the operation. Attention to hemorrhage following operation is most important. Many surgeons still adhere to careful packing of the prostatic pouch after enucleation of the gland, either by direct means or with the retrograde method of Hagner. Direct suturing is applied also by numerous operators. The importance of trained attendants to care for patients after operation cannot be emphasized too strongly. Infection is one of the greatest factors to consider. Cleanliness of the wound is of the greatest importance in successful prostatectomy. Many surgeons do not institute irrigation of the bladder for two or three days subsequent to operation. At the end of this time all packs and drainage tubes may be removed and irrigation instituted. Fluid intake should be resumed as soon as possible after operation, and such stimulation administered as is deemed necessary. If a patient refuses water, subsequent hypodermoclysis or enteroclysis is indicated. If the operation has produced shock to the cardiac center, digitalis in some form, preferably an alkaloid, may be given.

Complications following prostatectomy occur generally as a result of faulty preoperative studies, prolonged operative technic, or improper aftercare. Among the more common complications met with may be mentioned hemorrhage, shock, cardiac failure, pneumonia, septic infection, and renal failure. Epididymitis is frequently classed as a postoperative complication. It is generally caused by improper attention to the wound and the institution of irrigation too soon after operation. Temporary paresis of the bowel is frequently met with. This troublesome condition can be cleared up by enemas of alum and asafetida. The distention may be relieved by turpentine stupes and a hypodermic of eserin and strychnin, repeated if necessary.

In some cases a postoperative psychosis may develop, and it is advisable to get these patients up and out of bed on a wheel chair as soon as possible. A dry tongue is a significant sign of renal insufficiency, and calls for immediate action. Increase in the fluid intake by whatever means is practicable and nitroglycerin hypodermically in 1/100-grain doses repeated every fourth hour will, as a rule, reëstablish the secretions. In cases of myocardial degeneration, the patient must not be allowed out of bed too soon after operation, as acute cardiac dilatation has occasionally been the result of this error. When the bladder wound is slow in closing, an inlying catheter will hasten closure of the incision.

The question of allowing a patient to leave the hospital before complete closure of the bladder after prostatectomy is worthy of consideration. Unless he can be given expert attention at home, I believe it unwise to grant this permission. Family and friends mean well, but all surgeons have experienced the return of patients to the hospital with reopened wounds plus infection and very frequently complications from which it requires a long time to recover.

After operative convalescence, dilatation of the prostatic urethra by means of a Béniqué sound or a Kollmann dilator should be instituted to prevent contraction.

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CONSIDERATIONS GOVERNING THE ADOPTION OF THE PROPER OPERATIVE ROUTE IN PROSTATIC SURGERY*

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Inquiry as to the method of prostatectomy preferred by a large number of surgeons in this country reveals the following grouping: (1) Those who favor the suprapubic operation in all types of obstruction at the bladder neck. (2) Those who favor the suprapubic operation in all enlargements at the bladder neck, but employ the cautery or punch operation for the median bars, contractions, etc. (Randall, in a most interesting study of 158 cases at autopsy, found that 33½ per cent were median bars. Caulke found bars in 20 per cent of his cases.) (3) Those who favor the perineal method of approach for the enlargements and the endourethral methods for the bars, contractions, etc. (4) Those who divide their cases, employing the suprapubic route in a selected group and the perineal in another.

In the latter group, Deaver takes the position

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that the hard, small, fibrous prostate will usually be difficult of access by the suprapubic route, while the adenomatous organ will, at times, be so bulky as absolutely to prevent its removal through the perineum except by fragmentation. B. A. Thomas, in a recent communication, states that 80 per cent of his operations are done suprapubically and 20 per cent perineally.

In our opinion, the adoption of a given route is due largely to personal preference, and in most instances is the result of one's experience and training. Hunt has recently examined, in an exhaustive manner, the relative mortality rates in the perineal and suprapubic operations, and makes the following statement: "Isolated reports to the contrary notwithstanding, it appears from the present evidence that the average mortality rate following perineal prostatectomy, until recent years, was lower than that following the suprapubic operation, but an unprejudiced analysis of ultimate results and mortality rate following both perineal and suprapubic operations by those experienced in their respective methods, shows that these factors can no longer be utilized to discredit one or the other method."

There is no more brilliant chapter in urology than Young's magnificent contribution to the surgery of the prostate. The gradually diminishing mortality and morbidity attendant upon the improvements in technic, preparation, and care of the patient, to a point where 1,049 cases are reported with a mortality of 3.4 per cent and a series of 198 consecutive cases without a death, is a most enviable record. Surely no one can be critical of such results, no matter what procedure he employs. Several large series have been reported from the Mayo Clinic and by Gardner, Bugbee, and a number of other advocates of the suprapubic route, with equally brilliant results.

The important factors influencing mortality probably are not so much the type of surgical procedure as the careful preparation of the patient for operation, the employment of an anesthetic as little embarrassing as possible to the renal and cardiovascular mechanism, and intelligent postoperative care.

Local anesthesia for prostatectomy is by no means a recent method. It has been employed from time to time by most surgeons doing prostatic surgery. In our clinic it has been routine for the past two years, and only once in that time has it been necessary to supplement it.

In our series of 125 consecutive prostatectomies under local anesthesia, the average age was 69. Of the 125 patients, 70 were admitted with acute urinary retention, and 8 were almost moribund from chronic retention with massive residuals.

Management of the Patient

An indwelling catheter is inserted on admission, and the bladder is gradually decompressed. If the patient's general condition is bad, he is given a liter of 5 per cent glucose subcutaneously, the bowel is emptied by enema, fluids are forced by mouth, and he is put to bed, for as a rule, these patients are weary and sick unto death. The next day a careful general physical examination is given, the renal-function studies are made, and special attention is paid to the cardiovascular mechanism. The nervous system is, of course, studied for lesions affecting the bladder.

In preparation for operation, the drainage is continued, the bladder irrigated daily, the catheter changed from time to time as indicated, and large quantities of fluids are given by mouth if possible; if not, by bowel. The functional studies are repeated from time to time, with particular attention to the phthalein excretion. It has been a reasonably common observation in our clinic that many of the patients with normal blood-nitrogen figures showed a lowered phthalein excretion. We have learned to be guarded about this type of patient and to move slowly in subjecting him to surgery. We have a very high regard for the phthalein test as an index of renal disease. On the other hand, there have been several cases with high nitrogen (from 125 to 150) and creatinin retention from 6 to 7 which, under gradual decompression, improved sufficiently so that operation could safely be done. Blood chemistry of this type in the nonobstructive nephritides is always a sign of fatal termination.

We are convinced that, barring surgical accidents, success in the management of prostatics is almost entirely a question of renal stability. Careful cardiovascular studies of all prostatics admitted have impressed us with the cardiovascular fitness, actual and potential, of the general run of prostatic cases. It appears that, from the cardiovascular standpoint, the prostatic is a good operative risk, for he has passed the age at which the severe types of heart disease, those of rheumatic and syphilitic origin, are found.

These people have general arteriosclerosis and arteriosclerotic hearts, but peripheral sclerosis is no guide to visceral sclerosis. Most of our patients' hearts were functioning well and had fair reserve power. The presence of congestive failure in the arteriosclerotic heart of the prostatic is not so alarming as in other cardiacs in whom for years the heart muscle has been com-

pensating for a mechanical defect, a valvular lesion, or a vascular lesion requiring increased systolic pressure, and finally has broken down. In the victim of prostatism there is commonly a temporary cardiac break, conditioned by the toxemia, loss of sleep, and the great discomfort which attends disturbed urinary function, but with proper management the heart is almost always able to come back.

The cardiovascular contraindication to operation is the presence of congestive failure. In the management of this complication, rest, physical and mental, is essential. Sedatives should be used freely. The diet should be light. Fluid intake must be balanced between the two conflicting indications; one to spare the heart by restricting fluids, the other to flush the urinary tract freely because of the infection present. In our cases with congestive failure, the patients received between 1,600 and 1,800 c.c. of fluid per day, and were given a dram of digitalis daily for six days. The course of digitalis in these cases was usually concluded one week before operation, so as to avoid combined vagal and toxic effects associated with the operative procedure itself. The patients showing no congestive failure and giving no history which indicated circulatory embarrassment were not digitalized. The question of abnormal blood pressure is seldom of moment. High pressure is infrequent. In such cases, digitalis is desirable. Provided there is no congestive failure and the peripheral circulation is well maintained, as shown by warm extremities, no attention need be paid to apparent findings of low blood pressure.

In our series, the patients with massive residuals were subjected to long-continued drainage. Some of them were sent home with an indwelling catheter, and the patient and family physician were instructed as to the necessary care. We are convinced that this is important, as evidenced by the marked improvement in their general condition. In some cases the bladder was drained for a period of three months. The average interval between the drainage and the prostatectomy was fourteen days. Three of the group were intolerant of the catheter, and had to be drained by cystotomy. Twelve developed epididymitis during their convalescence. There were seven deaths in this series (5.6 per cent), three from progressive uremia, one from pulmonary embolism ten days after operation, two from sepsis, and one from bronchopneumonia.

Technic of Operation

The use of fluids is continued until the patient is brought to the operating room. Morphin, ¼ grain, and atropin, 1/150 grain, are given. The bladder is thoroughly irrigated, and a half ounce of 2-per-cent cocain solution is left in the collapsed bladder. The field of operation is prepared with benzin and iodin, and the tissues are infiltrated in layers with a half-of-one-per-cent novocain solution freshly prepared. The abdomen is opened and the patient placed in the Trendelenburg position. The bladder is filled with sterile water, the peritoneum reflected, and the bladder vault injected and opened wide after being grasped with a tenaculum. The retention catheter is withdrawn, and the bladder is completely exposed by wide retraction. The prostate is thoroughly injected under direct vision, using as much as two to three ounces of novocain in the prostate proper. The mucous membrane of the bladder surrounding the prostate is thoroughly infiltrated and the prostatic urethra injected by bending the needle at a right angle. Enucleation of the gland is carried out in the usual manner.

Packing is required in very few of these cases. In the event of bleeding to any extent, iodoform-gauze packing is inserted in the prostatic fossa. The bladder is closed around a Pezzer catheter, a gutta-percha drain is placed in the space of Retzius, and the abdomen is closed in layers.

Postoperative Management

The immediate treatment depends upon the character of the risk and the patient's condition on leaving the operating room. If his general condition is good, he is returned to bed, the catheter is connected up to the bottle beside the bed, and he is given generous quantities of fluids by mouth and permitted to take his meals if he desires. The poor-risk patient with a narrow margin is given a subcutaneous injection of 5 per cent glucose solution immediately following the operation. The catheter is removed on the third day, and the patient is taken out of bed. The average time for closure of the fistula is about twelve days.

This operation is performed with remarkably little discomfort for the patient. Among this group were four physicians upon whose statements one could rely. The fact that we have been able to make it a routine procedure is in itself evidence of this fact. There is very little shock and little change in the blood pressure and circulation. In a one-stage operation, the bladder can be opened freely and the gland, in the majority of instances, visualized. We are of the opinion that it is a useful surgical procedure in the management of obstructions at the bladder neck.

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OPERATIVE TECHNIC IN PROSTATIC SURGERY

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In the presence of an obstructive prostatic lesion, the first step necessary is to determine the type. There are three main types: (1) the bar obstruction—usually organized inflammatory tissue with or without some adenomatous changes; (2) true adenoma with or without malignant changes; (3) carcinoma of the prostate with or without apparent metastasis.

Bar Obstruction

The bar obstruction, in most cases, can readily be removed by any of the punch instruments on the market. They are all modifications of the original Young's punch. The instrument is a hollow sound with a notch back of its beak which when inserted into the bladder, engages the obstructing bar of tissue. A circular knife, either cold or heated, fits into the instrument and is plunged home. The obstructing tissue is removed with a long pair of alligator forceps. Most surgeons do this operation by direct vision through the operating instrument. A first bite is taken at six o'clock, then two lateral bites, one at eight o'clock and the other at four o'clock. B. A. Thomas prefers to do a simple suprapubic cystostomy and, by direct vision through the bladder, remove as much tissue by successive punches as he feels is necessary. This procedure is not to be condemned, as there are several surgeons who follow this routine, and very often suprapubic drainage is an excellent thing.

Adenoma and Carcinoma

The first question to be settled in operation for adenoma of the prostate is whether the one- or two-stage procedure should be employed. General rules adopted for my own guidance are: (1) To do a two-stage operation if the bladder is clean, even though there is normal blood chemistry, etc. (2) To do a one-stage operation if the bladder is infected by repeated catheterizations and the patient has accommodated himself to the infection, his general condition is good, and the blood urea is normal. This operation is rare in my experience. (3) To do a two-stage operation if, plus infection and a high blood urea, the condition of the patient is poor. In the majority of cases, the two-stage operation is safest, particularly in the hands of the general surgeon.

The choice between suprapubic and perineal approach depends entirely on the skill, experience, and choice of the operator. My personal preference is for the suprapubic operation for large adenomas and the perineal for small adenomas and certain types of cancer of the prostate.

The anesthesia is very important, my order of preference being (1) twilight sleep, (2) sacral and abdominal block, (3) gas-oxygen and local anesthesia, (4) gas-oxygen, (5) spinal (we have not used this for three years), and (6) ether (we have not used this for four years).

In the preoperative care, fluids in some form must be forced, glucose and saline solution being my choice, some treatment must be given to enhance the coagulation of the blood, and above everything else, two good nurses are necessary.

Technic of the Suprapubic Operation

If preliminary suprapubic drainage is decided upon instead of an indwelling catheter, the patient is prepared for an abdominal incision. The scrotum is shaved and prepared, and a wheal of novocain is placed in the scrotal skin. A longer needle is inserted through the wheal, and 10 c.c. of a one-per-cent solution of novocain is injected about the cord at the external ring. The cord is palpated and fixed by the thumb and finger, a fine bistoury plunged down to the vas, and with a towel clamp the vas is brought out through the tiny wound and its sheath dissected off. The vas is isolated and two ligatures are placed about it and tied. It is cut through, and the free ends of the ligatures are again tied together. The vas is then dropped back into the scrotum, with a simple gauze pad placed over the incision. The same thing is done on the opposite side. This prevents the common complication of epididymitis, and should be the first operative procedure, if possible, even before catheterization.

Young's technic is much simpler and may be just as good. He isolates the vas between the thumb and finger under the scrotal skin, and with a long, sharp, curved needle threaded with silkworm gut transfixes the vas to the skin. No anesthetic is used. The pain is slight, but is always present as the suture is tied. He claims sufficient inflammatory reaction to plug the vas and prevent epididymitis.

The next step is preparation of the abdomen. Any standard technic is permissible. I use benzin and alcohol. The patient is placed in an exaggerated Trendelenburg position, and with one-per-cent novocain a line of wheals is made in the skin from the umbilicus to the symphysis, the skin and superficial fat being incised down to the fascia. An injection of novocain is made in the fascia at the midline and laterally on both sides, deep into the recti muscles, injecting as the needle is inserted. The fascia is then incised,

the muscle split, and the posterior layer of fascia incised, and about 10 c.c. of novocain is injected just back of the symphysis in the preperitoneal fat and over the bladder wall. The tissue around the apex of the bladder is lightly injected, and the peritoneum pushed upward laterally and backward with gauze on the index finger, exposing the bladder wall. Several more wheals of novocain are made in the bladder wall, and it is grasped with Allis forceps, or a chromic-gut suture is hooked into the wall high up towards the fundus on both sides and slightly lateral to the median line. The bladder is fastened to the anterior sheath of the rectus, high up towards the umbilicus. A stab wound is made into the bladder in the median line, and the urine slowly drawn off by catheter *per urethram* or inserted through the wound. When the bladder is empty, the incision is enlarged sufficiently to allow palpation of the bladder interior for stones, size of the prostate, diverticuli, etc., and a No. 30 or 36 Pezzer catheter is inserted and fastened in by a purse-string suture, invaginating the mucosa as the suture is tied. This makes the wound water-tight. The muscles and fascia are closed by interrupted sutures. Some surgeons bring the bladder up as near the umbilicus as possible; others bring the catheter out obliquely through the muscle planes. A cigarette drain is placed in the space of Retzius, and the patient is returned to the room with a wet alcohol dressing over the lower abdomen.

In a primary prostatectomy, the bladder is opened in a manner similar to that used for suprapubic cystostomy. If the second stage is to be done, the patient is placed in the exaggerated Trendelenburg posture. The abdomen is prepared before the Pezzer catheter is pulled out of the suprapubic wound, and the bladder wound is enlarged with a knife sufficiently to allow freedom for the enucleating fingers. The index finger of the left hand is inserted through the bladder into the posterior urethra through the internal sphincter, and the cleft between the two lateral lobes of the prostate is broken through.

In a modification of this technic, with the bladder wall widely retracted, the mucosa over the prostatic hypertrophy and around the internal meatus may be deliberately incised with a knife and the prostate shelled out by separating the mucosa outwardly, either with an instrument or with the finger. After breaking through, the finger is swept around laterally in both directions until the prostate is completely separated from its bed, with the exception of the apex into which runs the urethra. A finger of the operator or the hand of an assistant may be placed in the rectum to facilitate the enucleation. This is not usually necessary, and sometimes is very hazardous.

The prostate may be difficult to deliver in this fashion, and each lobe may be removed by separate enucleation. It is better, however, to remove the gland as a whole if possible. The urethra is next pinched off at the apex of the prostate and the gland delivered. Any rough edges of bladder mucosa are trimmed off with a pair of scissors, and the prostatic capsule and bladder are packed tightly with gauze for ten minutes. At the end of this time, the gauze is very, very slowly removed, when it will be found that there is usually extremely little, if any, bleeding. The bladder is left wide open, the fascia is closed with a couple of interrupted catgut sutures if it has been broken or deliberately cut open, and two silkworm stay sutures are placed through skin fascia and muscle. The wound is then dressed with an alcohol dressing and the patient is returned to his room. I have not packed a prostate in three years, and the convalesence of my patients has been greatly shortened as a result. Many operators fasten in a bag blown up with air or water or pack the prostatic bed with gauze. The idea is to prevent hemorrhage postoperatively, removing the gauze or bag within the next twenty-four hours.

Perineal Prostatectomy

The patient is placed in the exaggerated dorsal position with the knees flexed on the abdomen, making the perineum practically parallel with the floor. The preparation for operation may conform to any standard technic.

An inverted U-shaped incision is made, with the center of the U about one and a half inches in front of the anus and the ends finishing midway between the anus and spine of the ischium. The fat and subcutaneous tissues are divided freely until the bulb can be felt. The spaces behind the transversus perinei muscle and the triangular ligament are opened by blunt dissection and the finger. A bifid retractor is now placed in the wound, pulling the levator ani and the rectum back, and putting the central tendon of the perineum on the stretch. This is divided close to the bulb, and the recto-urethralis muscle is cautiously divided, freeing the rectum from the apex of the prostate and the deep urethra. This exposes the outer layer of Dénonvillier's fascia, the anterior layer of which is attached to the urethra. The fascia is divided close to the apex of the prostate, and the posterior layer is released by blunt dissection and retracted, carrying back with it the rectum.

The urethra is then opened at the apex of the prostate on a sound, the edges being picked up with Allis forceps, the sound removed, and a Young's special prostatic tractor (closed) is inserted through the opening in the urethra into the bladder and the jaws opened.

Traction pulls the prostate down into the wound. Two lateral incisions (or one lateral incision, according to the choice of the operator) are made into the capsule of the prostate and the adenoma is shelled out by means of blunt dissection. The median lobe likewise is shelled out, and the finger is used to explore the bladder for stones. A large No. 32 or 36 catheter is placed in the bladder through this opening in the prostatic capsule, and the cavity is packed. The perineum is closed around the pack and catheter by either continuous or interrupted sutures.

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ABSTRACT OF DISCUSSION

Of Symposium on Prostatic Obstruction

STACY M. HANKEY, M.D. (Pittsburgh, Pa.): It is difficult to decide upon the proper treatment of the patient who has responded to palliative measures, but whose residual urine has decreased and whose other symptoms (urgency, frequency, and nocturia) are not alleviated. I believe that in this type of case, if these symptoms cannot be eliminated, resort should at once be had to surgery.

We appear to be inclining towards local anesthesia in prostatic surgery. Good results have been reported from the infiltration type around the prostatic capsule, and from caudal, trans-sacral, and regional types.

For the greater number of patients and for most surgeons, probably the suprapubic is the route of choice for operation. It would appear to me that only in cases of complete obstruction or infection should the two-stage operation be done. It does not seem logical when the bladder can be drained by an indwelling catheter. Our longest period of catheter drainage was seven months, and the incidence of epididymitis in such patients has not been high. Postoperatively, we use a Hagner bag to control hemorrhage, closing the incision with a suprapubic drain, and on removing the bag, an indwelling catheter is placed in the urethra. This seems to aid in closing the wound more readily, and the only difficulty is in maintaining the catheter in proper position.

HIRAM R. LOUX, M.D. (Philadelphia, Pa.): I should like to ask Dr. McCague in what percentage of his cases was there hemorrhage, and whether it came early or postoperatively.

JAMES C. BURT, M.D. (Pittsburgh, Pa.): The ideal types of local anesthesia are caudal and trans-sacral, but they both fail at times. We cannot limit ourselves to one kind of anesthesia, but my choice is gas-oxygen and ether. The addition of a little ether to the anesthetic will cause a heart to settle down after it has been beating very irregularly and fast. I believe that in course of time we shall all return to inhalation anesthesia as the most reliable form. Urologic surgeons generally prefer the suprapubic route for prostatectomy, as it gives better results in the average case.

I. L. OHLMAN, M.D. (Pittsburgh, Pa.): There is often a disparity between the phthalein tests and blood chemistry because errors creep into the phthalein readings. It is impossible to administer an even cubic centimeter of phthalein with the ordinary hypodermic syringe. Since the exact quantity should be given, the so-called tuberculin syringe with a long narrow piston should be used. An error to the extent of one to three drops will surely occur if the ordinary hypodermic syringe is used. In spite of warnings to the nurses that one-hour and two-hour specimens are required, often more than two hours' accumulation is sent to the laboratory, or some may be spilled in transit. Frequently a considerable quantity is soaked up by a large cotton cork used in the bottle.

Formerly we were careless about making physical examinations of our patients before operation, but are now doing better. We recently called upon the medical service in our hospital to make a complete physical examination of every patient in the general ward. We thus have their aid in deciding whether or not a patient is a good operative risk. Blood typing previous to operation should be a routine measure. This saves much time if it becomes necessary to do a transfusion in the middle of the night.

When a patient has been much weakened by prostatic obstruction and subsequent operation, the added infection, pain, and distress of epididymitis are almost sufficient to cause a loss of balance in the struggle between life and death. We are very cautious about manipulating the urethra at an early stage, and postpone it as long as possible.

BENJAMIN A. THOMAS, M.D. (Philadelphia, Pa.): Cardiovascular conditions may contraindicate operative intervention, even as does renal damage, and of these, blood pressure is one of the main considerations. There is such a thing as too high as well as too low a blood pressure. As a result of analysis of cases, we have come to the conclusion that, for a relatively safe operative procedure, in the presence of low tension, if the systolic blood pressure is 110 or less, the diastolic must be over 60; and if the diastolic is under 60, the systolic should be over 110. In the high-tension cases, if the systolic blood pressure is over 180, the diastolic should not be over 100, but if the diastolic is over 100, the systolic should be 175 or less. These figures, of course, are not absolute.

In the majority of cases of prostatic bars, particularly the so-called glandular bars, I do a cystotomy and remove the obstruction suprapubically by rongeur or punch. Certain types of fibrotic bars can be very satisfactorily removed *per urethram* by Young's or Caulk's punch, or perhaps by the high-frequency electric modalities which have been recommended by Beer, Collings, and Stern. By cystotomy combined with the suprapubic punch, I am able, first to do a more complete operation; second, to do a safer operation, for the reason that if there is bleeding, it can readily be controlled; and, third, if the bladder is infected, as is commonly the case, suprapubic drainage can be provided, which is a less dangerous procedure than a punch operation *per urethram* in a badly infected bladder.

W. C. BRYANT, M.D. (Pittsburgh, Pa.): There is no doubt that in patients who are able to take inhalation anesthesia, gas-oxygen and ether is ideal, but there are many cases in which the patient is subjected to additional risk by giving him this form of anesthesia. There have been many failures with sacral-block anesthesia, but when the technic becomes more standardized, they will diminish. In abdominal-block anes-

thesia, it is better not to inject the line of incision. While the base of the bladder is richly supplied with nerves that come from the sacral plexus, the vertex receives some innervation from nerves higher up which are not affected by the sacral block. Fortunately, the nerve supply to the vertex of the bladder is not very great. I have not had any difficulty with the bladder, even with the nerves above referred to not anesthetized.

DR. MCCAGUE (in closing): Replying to Dr. Loux's question, we had very little bleeding in our group, especially in the adenomatous glands. We had some hemorrhage, of course, in the small glands, with associated inflammatory reaction, in most instances easily controlled without packing. In this series not one was returned to the operating room because of postoperative hemorrhage. We had one case of extravesical hemorrhage from a granulating wound some six or seven days after operation. A large quantity of solution is injected into these glands, sometimes two to three ounces. We see no toxic effects, and there is considerable ballooning of the gland with compression of the vessels.

DR. HESS (in closing): Each surgeon and each patient is a law unto himself. The anesthesia or the operative technic that gives the best results for the individuals concerned is the one to use. I employ morphin and scopolamin almost exclusively for prostatectomy. I am not afraid to use morphin in huge doses in almost any genito-urinary case, for I have never seen much harm come from its use, and it certainly rests the heart. Occasionally it is necessary to watch for lung congestion, but such cases have not been serious or protracted. I have had one failure in 57 morphin-scopolamin analgesias in prostatectomies, and no hemorrhage sufficiently severe to require repacking. The scopolamin robs the patients of their memory, and most of them will wake up cheerful the following day, unaware that they have been operated upon and at complete rest.

Fluids cannot be given by mouth, but they can be administered hypodermically. I use 500 c.c. of five-per-cent glucose as soon as they come from the operating room. In six hours they are given 1,000 c.c. of saline solution, and after another six hours, 500 c.c. of glucose. This is repeated, alternating for six doses. These patients are so relaxed that there is no difficulty and little trauma in removing the gland.

Symposium On Disease of the Coronary Artery*

IS ANGINA PECTORIS SYNONYMOUS WITH CORONARY ARTERY DISEASE?

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To obtain a plain and simple concept of angina pectoris, it is necessary to turn back to the writings of the clinical observers of the latter part of the eighteenth and early part of the nineteenth centuries. Without intent to disparage the various modern methods employed in diagnosis, such as the electrocardiograph, the x-ray, and the laboratory, it cannot be denied that too great a reliance upon them tends to prevent the development of clinical acumen. A painstaking study of the history, a chronology of the events leading up to the present condition of a patient, and a careful and complete physical examination should precede any of the special methods which may be employed later. All information obtained should be just as carefully recorded. Otherwise, it is of no value as a basis of future comparison. A perusal of the older writers will convince one that the patient recording of observations has become almost as extinct as the art of letter writing and the keeping of a diary. It may not be amiss, therefore, if an attempt is made to sketch briefly the clinical aspects of angina pectoris. This will serve to place us upon a common ground and avoid possible misunderstandings. The symptoms may be grouped under two headings: (1) primary or cardinal and (2) secondary or incidental.

(1) PRIMARY OR CARDINAL SYMPTOMS

(a) Pain; suddenness of onset. The pain, of varying degrees of severity, usually related to effort or taking of food, more rarely occurring during sleep, is characteristically substernal, most frequently under the upper third, rarely under the lower portion of the sternum. It is not precordial, as loosely stated by many. The degree of pain in a measure determines the extent: the more severe, the wider the cord area excited, and consequently the more extensive the sensory and motor distribution. The extent of radiation, necessarily dependent upon an anatomic basis, is likewise measured by the severity of the attack, spreading to the left arm and shoulder, to the left side of the neck, to the jaw, less often to the right arm or both arms. The attack may subside suddenly or gradually, the affected parts remaining sore, often hyperesthetic for a day or several days, and sometimes paresthetic. Paresthesia was noted by both Morgagni and Heberden, and was a feature in the case of Charles Sumner. Rarely atrophy may follow. John Hunter suffered with severe attacks of angina pectoris for twenty years, and died suddenly in an attack after an altercation. He spoke of a sensation as though the breast bone were being crushed, with pain in the throat, face, left side of jaw, and inability to swallow during the attacks. Post mortem, his aorta was found to be syphilitic.

(b) A peculiar dread or fear, often a calamitous sensation of impending death, the *augor molestus* of Morgagni. It must be apparent that in no form of heart disease is this peculiar condition present, not even in the Adams-Stokes syndrome. It was typically present in a boy of twelve years who had two attacks of angina pectoris, short but severe, during an acute recurrent endocarditis with pericarditis. Even more striking is the fact that with his recovery from the endocarditis, his cardiac-muscle function manifested no restriction on ordinary effort, which is not at all likely had he suffered coronary disease or even an embolus. He was not dyspneic in the attacks, though much agitated.

(c) A diminution of muscular activity, including the

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respiratory muscles, apparently volitional, induced by the dread accompanying the pain. The absence of dyspnea is to be noted, in contrast to the picture presented when the coronaries are involved.

(d) Relatively little disturbance of pulse volume or blood pressure except in the coronary cases.

(2) Secondary or Incidental Symptoms

(a) Various vasomotor phenomena—salivation, polyuria, sweats, pallor.

(b) High blood pressure is rather the exception, though it may be elevated during an attack. This depends on the character of the etiologic factor—syphilis, atherosclerosis, and acute articular rheumatism being the three most common causes.

(c) More or less distention and gaseous eructation.

(d) Lessened systolic output, judged by the quality of the pulse. Also arhythmia, especially in the later phases of the coronary type.

(e) Sudden death.

Some cases are so mild as scarcely to arrest attention. Others may suffer peripheral rather than central pain. The pain may be remote, abdominal, or even genital, as noted by Laënnec, in which case one cannot conceive of an anatomic connection with the heart. Even more remote sites of pain have been described, a fact to be pondered over by the too strict coronarians. Not seldom the pain is epigastric, in the type erroneously ascribed to acute indigestion. It has even been mistaken for perforation of a gastric ulcer. Heberden, in his commentaries, referred to this form. Müller of Budapest called it angina abdominalis. Some apparently suffer no pain at all, the so-called angina sine dolore. Charcot died in his only attack, but in such cases it is often impossible to determine whether pain has occurred. Charles Dickens's daughter said that her father had suffered for some time with peculiar attacks of fear, not painful in the strict sense. He died in one of these attacks.

Most of the earlier writers advanced no hypothesis to explain these cases, though Morgagni expressed the view that they result from disease of the aorta. So many and varied were their findings post mortem that they were justifiably puzzled. The same findings were disclosed more often without angina than with it. Jenner was the first to call attention to the coronaries in angina, though he did not definitely associate the two. Parry, on the other hand, was more open in expressing a causative relationship. Angina pectoris is usually seen in those of middle or late middle life, yet the older the person, the greater the probability of finding advanced changes in the coronary vessels. Jores called attention to a significant feature. Even though the main trunks are involved, the muscular branches remain intact. Dr. Samuel West reported a case in which one coronary was virtually obliterated and the mouth of the other had become too small through atherosclerosis to permit the entrance of blood, yet no angina occurred in life. Balfour says "coronary sclerosis is too often present when there has never been any angina, to permit the occurrence being looked upon as anything more than accidental." We can readily agree with him in his statement that fatty degeneration of the myocardium and arteriosclerosis are often found when there has been no antecedent angina. The late John H. Musser was perhaps the first to call attention to the amelioration or even total cessation of anginal phenomena when a cardiac dilation supervenes, and their return with the reëstablishment of myocardial competence.

Angina pectoris is relatively infrequent, but myocardial damage incidental to slowly progressive coronary degeneration is common. The coronaries are not end arteries. Their anastomoses are numerous. The main trunks and their large branches constitute virtually two circles at right angles to one another. The right coronary, the smaller, supplies the right auricle, most of the right ventricle, and the posterior third of the septum. The left, or anterior, coronary supplies the left auricle and ventricle, a small portion of the anterior aspect of the right ventricle, and the anterior two thirds of the septum. The capillary portions surround every individual fiber of the heart, and these are rarely involved, whatever the extent of damage to the parent trunks. Occasionally, supplementary arteries arise independently from one or both sinuses, but these immediately divide and are directly distributed to the muscle. More important are those variations in which both coronaries arise from a common opening in one sinus, or rarely, two separate orifices in one sinus. Anomalies in the aortic valves are the rule in such instances. More rarely, one coronary has been found to arise from an aortic sinus and one from the pulmonary artery. Dr. Maude Abbott has described a remarkable case of this character. The chief interest associated with these cases in the present connection is the fact that these remarkable anomalies did not result in the production of angina. Nor did it occur in two others, even more extraordinary in an anatomic sense, where the aorta and pulmonary artery were transposed, and the coronary arteries arose from the vessels associated with the right ventricle, though these patients did not long survive, it is true.

Coronary degeneration of gradual onset and progression may reach such a stage as to be complete, so far as our methods of study enable us to determine, yet no angina has existed. In such cases it has been suggested that nutrition may be aided through the vessels of Thebesius

or by endocardial imbibition. Pratt demonstrated that a dog's heart would sometimes continue to contract for some hours, even after ligation of the coronaries, if a nutrient fluid was supplied to the cavities. The frequency of occlusion, more or less complete, of the orifices of the coronaries in disease of the aortic cusps, in late disease of the mitral leaflets, and especially in atherosclerosis of the root of the aorta, as a rule with no semblance of angina in life, especially in the first two conditions, should make the coronarians pause.

Acute obstruction, however, is another matter. As is generally recognized and admitted, acute obstruction of an artery in a limb results in agonizing pain. Even venous thrombi are more or less painful in their acute phase, but not in the late stage of organized clot. So, too, with arterial lesions. In the early, inflammatory phase, it is quite reasonable to suppose that the periarterial sympathetics may be involved and that both direct and indirect sensory phenomena are evoked, for, in proportion to the degree of reactive inflammation, the process will spread to the surrounding tissues. So intimate are coronary anastomoses, that, post mortem, even multiple ligatures of the coronaries fail to prevent fairly complete injections of the coronary system. Spalteholz, quoted by Allbutt, said the blood and lymph vessels inosculate so freely that the heart in life may be looked upon as a sponge. X-ray pictures of hearts after coronary injection of red lead and gelatin were first shown at the Congress of Internal Medicine in Wiesbaden in 1907, and again in 1913.

Both Schäfer and Barcroft claim that the coronaries are not under vasomotor regulation, and physiologists generally agree that adrenalin affects the muscular coats directly, causing dilation. Barcroft pointed out that their caliber depends upon the amount of CO_2 given out by the heart muscle. A moment's reflection will serve to show that these two principles are as important in a physiologic sense to the function of the muscle, as is the intricate vascular anastomosis. Then, too, the superficial position of the larger trunks of the coronaries obviates constriction during contractions of the heart, and a further protection is afforded by the thick muscular walls. Their anatomic arrangement suggests that velocity and friction within them must be high, and the practical constancy with which they suffer degeneration suggests a high grade of lateral pressure. Lateral pressure would be even more destructive in its effects upon the vascular system were it not for the spiral arrangement of part of the musculature of the vessel walls.

This topic is of more than academic interest. The tendency toward surgical interference in cases of angina pectoris makes it imperative to come to a more definite conclusion. Surely one would not be justified in submitting a case of coronary obstruction to the surgeon, nor could much be expected. In the usual paroxysmal form, however, we may hope for a larger measure of success.

Huchard is said to have gathered approximately eighty hypotheses to explain angina pectoris. No wonder, then, that many still refuse to regard it as a disease, a definite entity, preferring to look upon it as a syndrome, a symptom complex. An unbiased study of postmortem records leads to the recognition of two groups, into one or the other of which all cases of angina can be appropriately placed: first, the suprasigmoid, aortic group of Allbutt; second, the coronary group. In the suprasigmoid group, syphilis, aortic atherosclerosis, rheumatic fever, a local pericarditis, with or without present or antecedent high blood pressure, hence also hyperpiesia, are the chief provocative factors. Aneurysm at the root may play a part also.

The unique study of pain on the basis of embryologic evidence by Dr. W. M. Willoughby is peculiarly suggestive in this group. He said that beyond the innominate, the arch originates entirely from left-sided visceral arches, thus, by inference, giving rise to left-sided pain. The first portion of the arch arises in a fusion of two symmetrical right and left ventral vessels, hence it is not possible to say how far pain should be reflected to the left or right in lesions in such a situation. Pain originating in a lesion in the suprasigmoid area, therefore, may be bilateral, and would most likely be referred to the area of junction of the first and second pieces of the sterum, radiating to the left or to both left and right. Since the left ventricle originates wholly from left-sided structures embryologically, he said that any pain arising in connection with the left ventricle should be referred to the left side. He thought the dominant reflection of anginal pain to the left was in accord with the dominance of left-sided embryonic structures.

If but one cataclysmic attack terminates life, it is not possible to say with any definitiveness whether the lesion was suprasigmoid or coronary. The younger the patient, the more likely it is that the lesion was suprasigmoid; and conversely, the older the patient, the more probable is coronary thrombosis. More frequently, repeated paroxysmal attacks occur, sometimes leading up to status anginosus, or attacks of mild or severe type may occur at various intervals of time. It is not likely that each attack could mean a fresh obstruction of the coronary, when it is

recalled that, in the frank coronary case, the myocardium soon shows evidence of progressive impairment.

If we accept the dictum of Musser, cardiac dilation causes a cessation of anginal attacks, though they may recur with return of muscle tonus. The striking fact is that the heart muscle is usually good, and remains relatively good over many years in the suprasigmoid variety. The blood pressure may be raised during the paroxysm, but only in the exceptional case is it persistently high. In the coronary type the pressure usually falls and may continue to fall, and evidences of muscle failure soon occur and, as a rule, progress. Then, too, in the coronary type, dyspnea and often cyanosis are present, even pulmonary edema and albuminous expectoration, while the suprasigmoid type does not manifest true dyspnea, and pallor is the rule. The pulse is not much changed in the suprasigmoid form. It may be slowed for a time, less often it is somewhat above the normal rate, but only rarely is it irregular. In the coronary case, the development of tachycardia is the rule and arhythmia follows. Of course, in coronary cases, the site of the lesion plays an important rôle. This must be evident from our knowledge of the vascular distribution.

The electrocardiographic peculiarities are of little value to us as practicing physicians. Both Lewis and Pardee have called attention to certain characteristics of the graph, Pardee particularly in coronary thrombosis. We rarely see these cases in the hospital ward, however, and the experimental evidence of Eppinger and later of Fred Smith after ligation of the coronaries in animals, which supports the findings of Lewis and Pardee, in the majority of instances met with in the home is not of practical assistance.

It is unfortunate that the term pseudo angina or angina notha was introduced. Potain said: "There are no false diseases; there are only false diagnoses." Such a concept as false angina merely serves to befog one. Either the disease is or it isn't.

Vaquez does not look upon angina pectoris as a disease. To him it is only a syndrome. He believes that patients with extrasystole may have symptoms exactly like those of angina pectoris. This may be true, but when he intimates that such patients also have aortitis, he is on a common basis, for that is the view of those who recognize the suprasigmoid area as the region of necessity in one of the two groups. Extrasystoles are too frequently innocent and accidental findings to justify us in regarding them in any sense as an obligatory part of angina. His separation of angina into the angina of effort and the angina of decubitus further clouds the situation somewhat. To be sure, he regards the former as suprasigmoid in origin, but the decubitus form he speaks of as being due to cardiac dilation, often attended by functional valvular insufficiency, mitral as a rule. However, as Traube pointed out, cardiac dilation ameliorates or stops the attack, and may prevent a recurrence. This is a variation of the statement of Musser. Acute dilation of the heart after violent muscular effort is not accompanied by angina, unless there is an associated aortitis. This seems to be the crux of the situation. Great physical effort is not seldom productive of substernal discomfort, even pain, but there is always an associated dyspnea, proportionate to the effort and to the degree of muscle impairment, especially in later life. Cardiac dilation of gradual onset is so common, and so utterly bereft of anginal phenomena *per se,* that it does not merit further comment.

In aortic regurgitation, however, it is not unusual to find hyperesthetic zones in the sternal and left pectoral region especially, even in the neck and face and in one or both arms. The muscles in these areas are often tender. These phenomena disappear when the mitral leaflets give way and dilation occurs. This is suggestive because of the position of the lesion and its relation to the aorta. The pathogenic factors include any sudden sharp dilation of the aorta, especially of the first portion, and particularly an inflammatory lesion in the root of the aorta such as occurs in syphilis, during the acute stage of articular rheumatism, or in pericarditis about the aortic root. Ever since Harvey found that he could handle the heart of the young Count of Montgomery without exciting pain, this organ has come to be regarded as devoid of common sensation. The nervous pathway is complex, the afferent impulse arising in one group in connection with the aorta and in the other with the coronary. It is not necessary to attempt to trace the pathway at this time, or at least as much of it as is known, but if we accept the vascular origin as the basis of both the groups, it makes possible the interpretation of so-called extrapectoral cases.

Cabot is of the opinion that "it is not to be expected that anatomical studies will ever throw much light on the clinical manifestations which we call angina pectoris." He comments on the similarity of the symptoms following cardiac infarction to those of true angina pectoris. The inference seems justified that by the latter he means cases with frank involvement of the aorta post mortem as well as those in which no anatomic lesion can be found to explain the clinical

phenomena. Repeated attacks of coronary block may occur, though they must be rare. Cabot reports one of seven years' duration. However, it is necessary to recognize that in coronary obstruction sudden death is more frequent, the pain is apt to be of longer duration and more likely to be in or about the epigastrium than in the other group, relief from pain is not obtained by the use of nitrites, the attacks are not associated with effort, and evidence of serious myocardial involvement is far more frequent. In both groups, the number of men greatly exceeds the number of women affected.

327 South Seventeenth Street.

THE ELECTROCARDIOGRAM IN CORONARY DISEASE AS COMPARED TO THE NORMAL

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It is only in recent years that the greater number of medical practitioners commenced to recognize early symptoms of disease of the coronary arteries. The word "symptoms" is emphasized because there is frequently little else upon which to base a diagnosis. This is particularly true in cases of minor coronary insults. Therefore, any method that is of aid in such a diagnosis would be of untold value. Distortion of the normal electrocardiogram is frequently the only confirmatory evidence in the diagnosis of coronary disease.

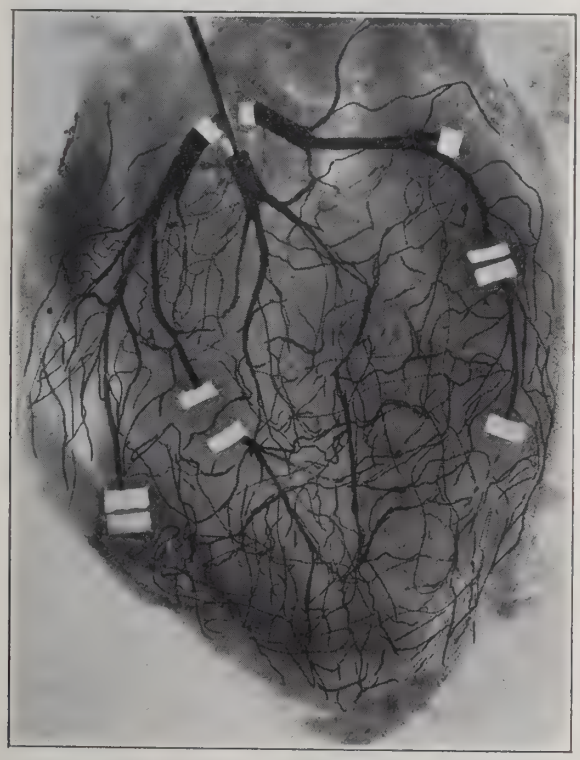

Fig. 1. Central coronary branch injected. Nearly all the minor as well as the major branches are filled out with mercury in spite of numerous ligations, showing rich coronary anastomosis.

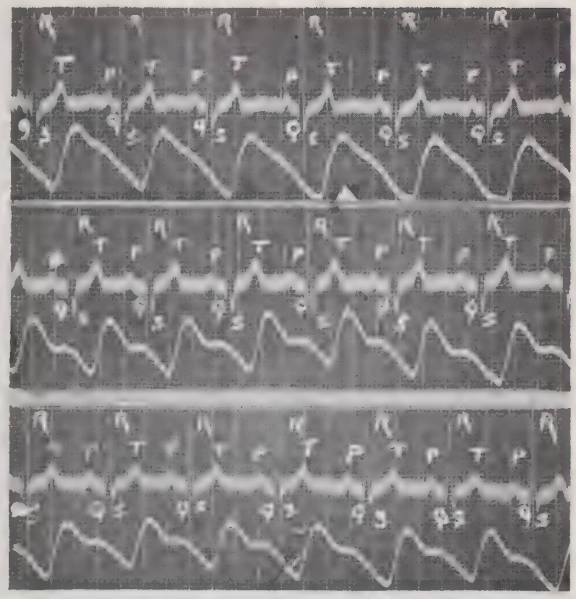

Fig. 2. Normal electrocardiogram. Lead I at top, lead II in center, and lead III below.

The coronaries are no longer regarded as end arteries, on account of their numerous communications, especially of the deep intermuscular branches by which means collateral circulation may be maintained. Coronary disease may therefore be removed from the category of hopeless diseases and placed in a more manageable rank. (See figure 1.)

Gross has suggested that in early life there is not much difference between the right and left coronary distribution. With advancing years, the left coronary gradually gains the ascendency in the number and distribution of its branches. In the aged, there is a gradual restriction of the distribution of both coronaries, particularly that of the right. This may account for the more alarming symptoms occurring in disease of the coronaries during the age of retrogression which make the prognosis more grave.

The conductive system, as well as the heart muscle, depends upon the proper function of the coronary arteries for its nutrition. It is therefore quite logical that any disturbance of the coronary arteries supplying the conductive system of the heart will impair its nutrition, which will in turn impair its function. This will very frequently cause an alteration of the physiologic electrocardiogram. (See figure 2.)

Normally, as it is well known, the simultaneous contraction of the auricles is preceded by an electrical impulse which the string galvano-

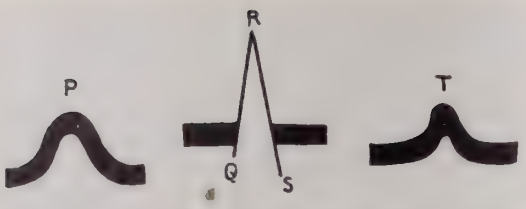

Fig. 3. P wave. Fig. 4. Q-R-S complex. Fig. 5. T wave.

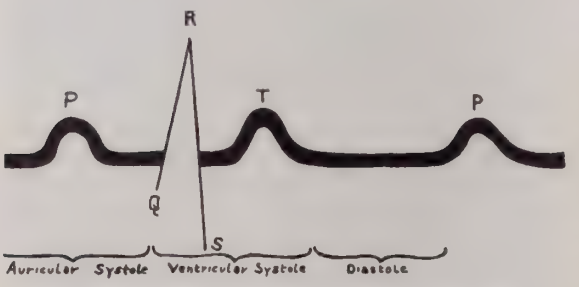

Fig. 6. Registration of a complete cardiac contraction.

meter records as a rather short wave, directed upwards and usually somewhat flattened at its summit. This is known as the P wave though to call it the A wave would be more appropriate. (See figure 3.)

A short iso-electric horizontal line follows, during which time the heart is at rest. Then the ventricular excitation occurs and both ventricles contract simultaneously. A ventricular complex is recorded which consists of a sharp downward, then upward, followed by another downward deflection, known as the Q-R-S complex, as shown in figure 4.

A short iso-electric line follows this group of inscribed ventricular lines, and then, probably due to ventricular relaxation, it is followed by another upward, then downward deflection, known as the T wave. (See figure 5.)

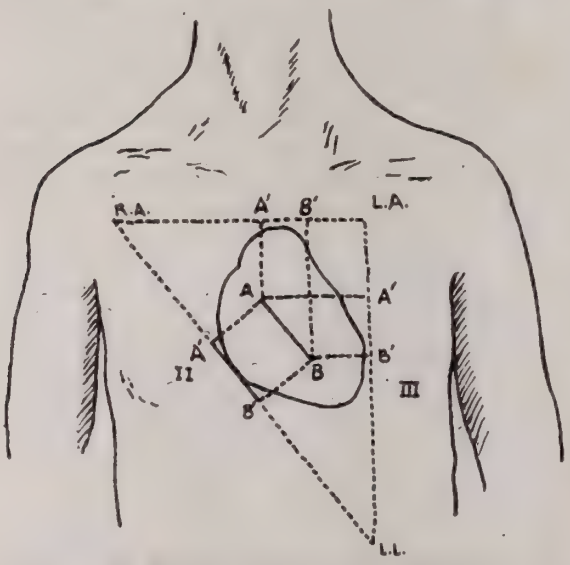

Fig. 7. The Einthoven Triangle. R.A., right arm. L.A., left arm. L.L., left leg.

As to the exact causation of the T wave, nothing definite has as yet been proved. The registration of a complete cardiac contraction by means of a string galvanometer would therefore consist of the summation of the above complexes as illustrated in figure 6, the P wave representing auricular contractility and the Q-R-S complex and T wave the contraction and relaxation of the ventricles.

These cardiac currents are conducted to the string galvanometer by means of nonpolarizable electrodes which are wound around three of the patient's extremities, and are called "leads" or "derivations." They have been picked arbitrarily. While the patient is at rest, the heart is, of course, the predominating acting muscle in the

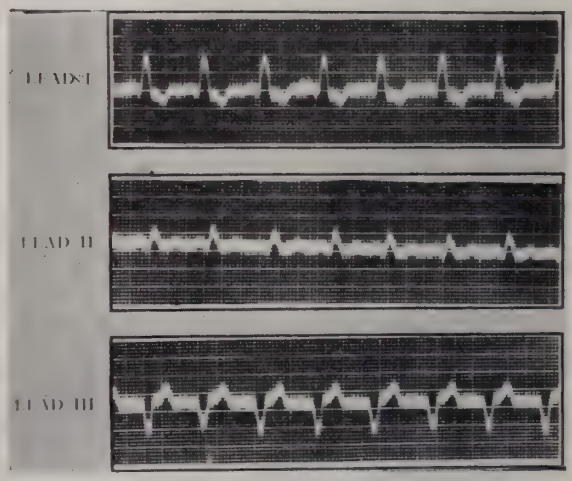

Fig. 8. Electrocardiogram suggestive of coronary disease.

body. The current from the right to the left arm is directed chiefly across the base of the heart, and is known as lead I. That from the right arm and left leg is known as lead II, and runs diagonally through the heart, while that from the left arm and left leg is lead III, and runs in a vertical direction through the heart. (See figure 7.)

Any factor that will impair cardiac conduction will distort the normal or physiologic type of electrocardiogram. Up to the age of forty, changes due to infectious or toxic conditions of the heart are undoubtedly the main factors responsible for cardiac irregularities. After this age, impaired circulation due to coronary disease plays a great part in the etiology of myocardial changes. These may cause various arhythmias or disturbed conduction below the bifurcation of the bundle of His. The latter can be recognized only by means of the electrocardiograph.

A careful analysis of a great number of records tends to show that it is rather difficult to speak of a typical electrocardiogram of coronary disease. Many cases of definite coronary disease fail to reveal any appreciable electrocardiographic abnormality. So-called typical coronary waves have been seen in cases in which the history, physical findings, and their progress pointed to fairly advanced myocardial disease, but not definitely due to coronary insults. There are, nevertheless, certain definite findings which, *if seen in a patient presenting a clinical picture of coronary disease,* may be considered pathognomonic. The most striking are those pointed out by Pardee and others, which we also have found in cases of coronary disease: an upward convexity of the S-T interval and a sharp downward turn of the T wave in lead III and occasionally in lead I, after a brief upward curve. A diphasic or inverted T wave in lead II, and notching and slurring of the Q-R-S complexes have also been found in quite a number of our records associated with one or more of the above findings.

Bundle branch block, which is a fairly common form of heart block, is detectable only by the following anomalous electrocardiographic findings: widening of the Q-R-S complexes and notched or bizarre ventricular complexes, with a T wave that is usually high and frequently in an opposite direction to the Q-R-S complex.

Arborization block, which is the term employed when there is interruption in the conduction of the stimulus in the small Purkinje fibers, is also detected by distorted ventricular complexes, such as secondary apices on the R apex, with notching, splitting, and widening of the Q-R-S complexes. We have quite a number of records which indicate block of the right or left bundle branch as well as of the smaller subendocardial ramifications (arborization block), in which cases the autopsies proved the presence of definite disease of the coronary branch on the side suggested from the electrocardiographic findings. It should be remembered that only the electrocardiograph can shed such light on this condition in most instances. (See figures 7 and 8.)

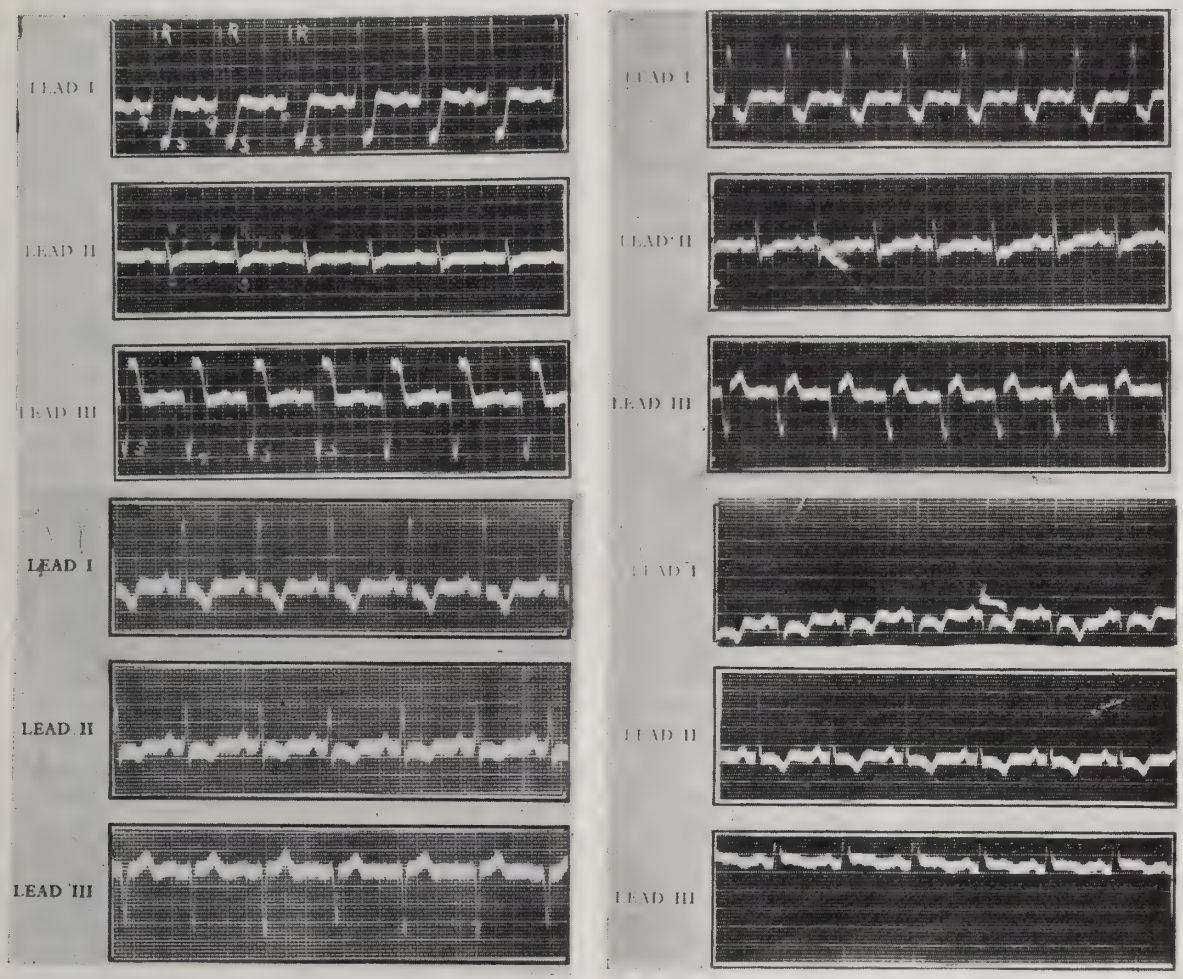

Fig. 9. Electrocardiograms suggestive of coronary disease.

It has been shown in many cases that during an attack of coronary thrombosis the downward stroke of the R wave is suddenly and early interrupted by the T wave, thus eliminating the R-T interval, as shown in figure 9. Several electrocardiograms, in cases of recovery, show the R wave gradually approaching normal and the T wave gradually flattening until it finally becomes inverted. Drew Luten has observed several cases of definite coronary thrombosis in which the "T wave branches off at a high level and after a rise, falls abruptly below the base line" similar to the one seen in our record (figure 9). Nevertheless, we ever so often see badly diseased hearts that fail to reveal any electrocardiographic abnormalities. With the aid of the electrocardiograph, we have noted that the great and prolonged pain usually occurs in thrombosis of the left coronary artery. When the right coronary is thrombosed, dyspnea instead of pain is the preëminent symptom.

In conclusion, we may note that the value of the electrocardiogram in diagnosing coronary disease is probably greatest in those cases in which periodic electrocardiographic studies can be made and minute abnormal changes recorded. Only careful observation and correlation of the electrocardiographic, clinical, and pathologic data will enable us to make a diagnosis as to the extent, location, and progress of minute cardiac pathology.

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STUDIES ON THE CORONARIES

Results of Histologic and Injection Experiments*

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Until quite recently the coronaries were considered end arteries, even though Merkel,[1] as early as 1906, had demonstrated the existence of free anastomosis between both coronaries by obtaining complete filling of the left when the right was injected. Spalteholz,[2] in the same year, dissected hearts, after injection with chrome yellow and gelatin, and found the anastomosis situated beneath the endocardium and epicardium in the muscle substance. More recently, Gross,[3] from a rather extensive study, concluded that the heart is abundantly supplied with capillary and precapillary anastomoses, normally not in use and therefore inadequate for emergencies, but adequate for collateral circulation if gradual obstruction of a large branch occurs. He stated that in early life there is not much difference between the two coronaries, but that with advancing years the left gradually gains the ascendency in number of branches and distribution, and that in old age there is gradual restriction of both, but particularly of the right. This, in a way, seems a natural conclusion and one that theoretically might be reached, considering the greater amount of work thrown on the left ventricle during adult life, with consequent enlargement and greater need for nutrition.

Oberhelman and LeCount,[4] using mercury and a pressure equivalent to 125-150 mm. of Hg., demonstrated free anastomosis in two thirds of the human hearts they injected. Both coronaries were filled by injecting one artery, mercury appearing at the orifice of the coronary in from one to three minutes. Collateral anastomoses were particularly evident in hearts with coronary disease. In the remaining third of the hearts examined, no anastomosis could be demonstrated between the right and left coronary. It is interesting to note that the patients in this group suffered sudden death, and there was no need for collateral circulation.

It has long been the idea of some clinicians that coronary disease and angina are not synonymous, for subjective symptoms of heart disease may be absent, even though marked atheromatous changes exist in the larger branches of the coronaries. To substantiate this, Cabot[5] has reported 72 cases of coronary sclerosis without angina. And all pathologists know the frequency with which advanced coronary sclerosis, even approaching occlusion, may be found at autopsy, yet with a clinical history negative for cardiac symptoms. Cabot[5] has also reported 94 cases of coronary narrowing without angina, 33 with angina, and 11 cases of angina without demonstrable narrowing. This probably coincides with the experience of most clinicians, unless, as Cabot says, the cases of coronary narrowing without angina should be more numerous. Benson[6] also feels that coronary-artery disease is many times more common than statistics indicate. It is also well known that marked atheromatous

*From the Laboratory of the Samaritan Hospital, Philadelphia, Pa.

changes may be present in the larger branches of the coronaries while the smaller branches show practically no histologic pathology (see figures 1 and 2). This freedom of the heart from capillary sclerosis has also been recognized, for in discussing the histologic changes occurring in "arteriocapillary fibrosis," first described by Gull and Sutton[7] and later differentiated by Jores,[8] Evans[9] remarks that both the skeletal and heart muscles are singularly free from this affection. While it is true that angina or anginoid attacks may occur in the absence of demonstrable pathology, possibly many are associated with myocardial infarction. The cardiac muscle is so abundantly supplied with capillaries and they are so intimately connected with the individual muscle fibers that an adequate blood supply seems to exist for nutrition and function, even in the presence of narrowing of some of the coronary branches, unless there is a sudden occlusion by thrombus or embolus.

It was hoped that histologic study of a series of hearts after injection, in addition to confirming the work already done, might offer additional information on this question of coronary disease and angina.

Technic

Experiments were first performed to determine the best medium for injection. Although Oberhelman and LeCount[4] had used mercury for injection, employing a pressure of 125-150 mm. of Hg., this was not tried, because of the fear that it might leak out of the vessels when sectioned. Several of the colloidal-silver preparations were tried: cargentos (colloidal silver oxid), containing 25 per cent of silver; argocol (20 to 25 per cent metallic silver); and siocol (25 per cent silver iodid). In themselves, they offered practically no resistance when injected, but were not dense enough to cast a shadow by x-ray.

Fig. 1. Sclerosis of coronary branches; no capillary fibrosis. The patient was a man, aged 35, who had had precordial pain once a month for the past three years. The clinical diagnosis was advanced myocarditis and coronary thrombosis; the pathologic diagnosis, coronary sclerosis, chronic fibrous myocarditis, and organizing mural thrombi.

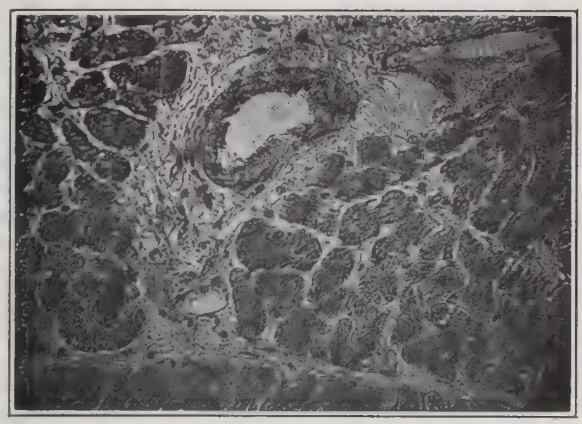

Fig. 2. Sclerosis of coronary branches; no capillary fibrosis. Same case as shown in figure 1. Note the thin-walled capillaries above and below the central arteriole.

Next a saturated solution of sodium iodid was tried, because of its use in pyelography, but the amount of solution which could be held in the coronary system was too small to show by x-ray. Next, an ordinary Sherwin-Williams "inside white paint" was tried, which contains, by weight, about 25 per cent of pigment. This, in turn, contains 25 per cent of zinc oxid. It was first thinned with linseed oil, but still offered quite marked resistance to injection, and was discarded. Finally, all of the liquid (oil) was poured off and the settled pigment thinned with pure turpentine, in proportions of one part pigment to six or eight parts turpentine. In this condition, good shadows were obtained by x-ray and, for injection, practically no resistance was offered by a small-caliber needle. This, then, was the material used in all the experiments.

For injection the diluted pigment was placed in a bottle fitted with a rubber cork having two perforations. Through one, ran a glass tube which dipped well below the surface of the solution for injection. This was connected by pressure tubing to the needle. Through the other perforation, but not entering the liquid, ran a second glass tube which communicated with a small distillation flask through its side arm. The bottom of this flask was filled with mercury and the neck fitted with a rubber cork, also having two perforations. Through one, a long straight piece of glass tubing dipped into the mercury, and through the other ran a shorter piece through which air could be forced into the system (see figure 3). The air within the distillation flask communicated with the bottle containing the diluted pigment. As the pressure was increased by pumping air into the flask, the amount was recorded by the height of the mercury column. Diluted white lead dripped from the end of the needle when the pressure reached between 10-20 mm. of Hg.

As soon after removal as feasible, the hearts were washed with tap water, gentle pressure being exerted on the ventricles to free them as much as possible from contained blood. Next the heart was suspended by the root of the aorta, the apex just resting on a flat surface, so that too much stretching was not present, or the entire heart was suspended in salt solution. The needle was filled with white lead and inserted into the left coronary, just above the corresponding aortic valve flap. The needle was held in place by silk sutures, after the branch of the coronary chosen for injection was entered. Pressure was increased, either by a hand pump or a small electric motor, and the white lead could be seen filling the superficial coronary arteries. The injection was continued until white lead was seen filling the superficial coronary branches on the posterior wall of the heart near the interventricular groove and coronary sinus. In some instances, pressure was maintained at a high level over a long period of time. Immediately after injection the hearts were x-rayed, then formalinized, and specimens were taken from different portions, depending upon the branch of the left coronary used for injection, and sectioned by freezing.

RESULTS

All of the hearts in our series were injected in the main trunk of the left coronary before it gave off the circumflex branch, or in one of the limbs of the descending branch. We obtained evidence of anastomosis with the right coronary in a much smaller percentage of cases than have other investigators, possibly because of the medium injected, which was chosen to fix the injected substance within the heart muscle, but more probably because of anatomic anomalies of the coronary vessels.

In hearts from babies and very young children, both of the coronaries seemed to have about an equal distribution. As the left ventricle increased in size, the left coronary quite definitely gained in the amount of muscle supplied.

Fig. 3. Apparatus used to record pressure and inject coronaries simultaneously.

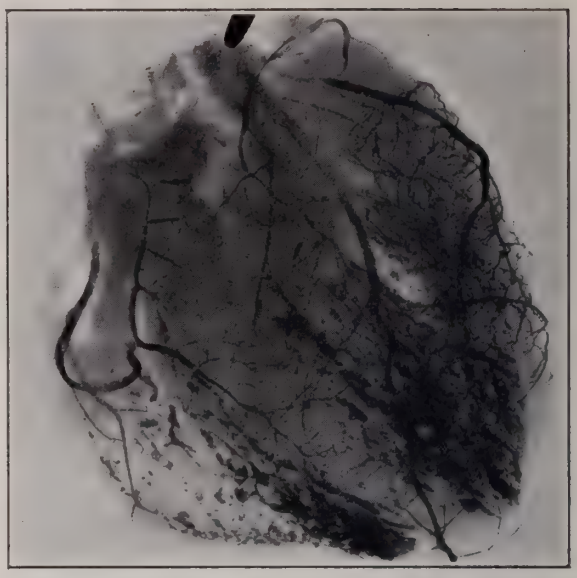

Fig. 4. Heart from a case of acute septicemia. Note the clouding. No rupture of the smaller capillaries was found on histologic examination.

Hearts with moderately thin, flabby ventricular walls, and hearts removed from patients with acute infections were easier to inject than those with a firm muscle. The pressure necessary to fill the coronary system, we found to be much higher than did Oberhelman and LeCount,[4] even in hearts showing exquisite injection of the superficial capillaries. The coronaries of premature babies and small infants could be filled with a pressure of about 200 mm. of Hg., with no massage of the heart. As the age increased, more pressure and massage of the heart muscle were needed to fill the coronary system. In hearts with a firm, thick left ventricle, 500-600 mm. of Hg. pressure was necessary for complete injection. It was feared that the combination of high pressure and massage of the heart muscle might rupture some of the finer capillaries, but no evidence of this was found on histologic examination of the hearts so treated, although one heart, from a case of acute septicemia, did show diffuse clouding by x-ray (see figure 4). We could not satisfy ourselves that a proportionate increase in pressure, corresponding to increased decades, was needed to inject the hearts of children and adults, although more pressure plus massage was necessary to fill the coronaries of adults than of children and infants. The necessity for manual massage of the heart muscle to fill most completely the coronary capillary bed also illustrates the importance of the cardiac contractions, *in vivo,* for this purpose. Figures

Fig. 5. Injection below circumflex branch of the left coronary under a pressure of 200 mm. Hg., five minutes' duration, with no massage.

Fig. 6. The same heart shown in figure 5, injected under a pressure of 200 mm. Hg. for five minutes, with massage.

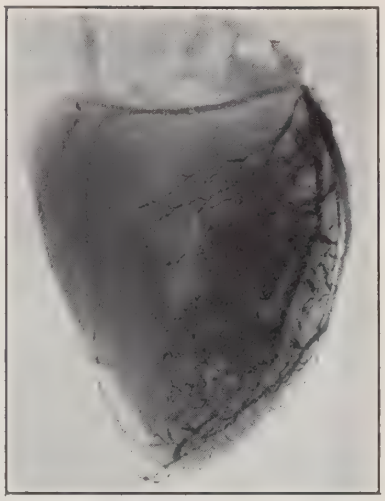

Fig. 7. The same heart shown in figures 5 and 6, injected under a pressure of 550 mm. Hg., duration five minutes, with massage.

Fig. 8. Congestion of capillaries. Note the small capillaries, between the individual muscle fibers, filled with a single row of red cells. Specimen from a heart which was the seat of an acute rheumatic endocarditis.

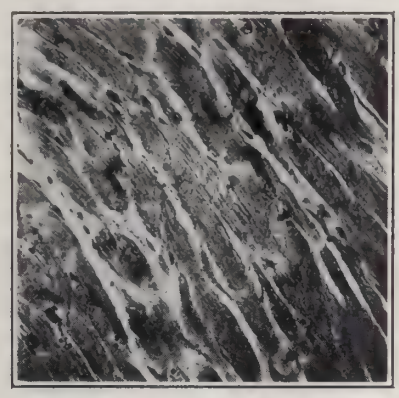

Fig. 9. Normal heart. Note the absence of distended capillaries between the individual muscle fibers. Compare with figure 8.

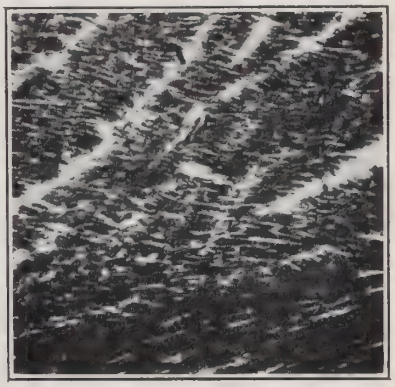

Fig. 10. Injection of smallest capillaries. The sharply defined black streaks are injected capillaries. This is a section of the heart shown in figure 13.

Fig. 11. Heart of seven-months' fetus. Injection into main branch of the left coronary.

Fig. 12. Injection into the left branch of the left coronary, after the circumflex had branched off. This heart showed slight hypertrophy, but no other pathology. Note the comparatively few branches injected. Compare with figure 14.

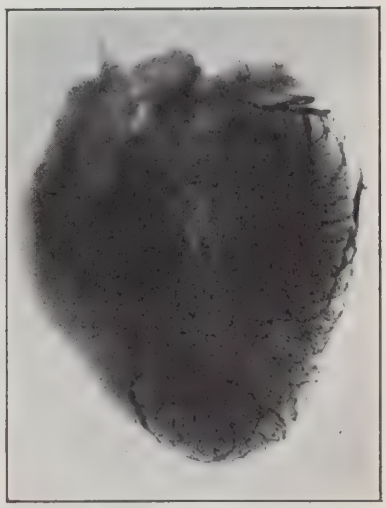

Fig. 13. Febrile heart from a case of acute generalized peritonitis. Note the many fine capillaries injected. Compare with figure 10.

5 and 6 show the difference between coronary injection without and with massage of the heart under the same head of pressure. Figure 7 shows the same heart injected under a pressure of 550 mm of Hg. with active massage of the heart muscle.

Most histologists agree that, although the capillaries of the myocardium are among the narrowest in the human body, they are extremely abundant, forming elongated meshes between the individual muscle fibers, so that the circumference of each muscle fiber is in intimate relation with several capillary vessels. Meigs[10] states that they even penetrate into the muscle bundle. The fineness of these small intermuscular capillaries, just large enough to allow the passage of a red blood cell and consisting of a single layer of endothelial cells, can be well seen in hearts showing chronic passive congestion (see figure 8). Normal hearts fail to show this (figure 9). Occasionally we obtained filling of some, but not all, of these smallest capillaries in hearts from febrile cases (figure 10).

In hearts removed from young children and babies, the number of injected capillaries, as shown by x-ray, were only moderate (figure 11). This also applied to hearts removed from patients free from cardiac pathology or acute infections (figure 12). On the other hand, hearts from patients with febrile affections or cardiac disease showed many more and much finer capillaries (figures 13 and 14).

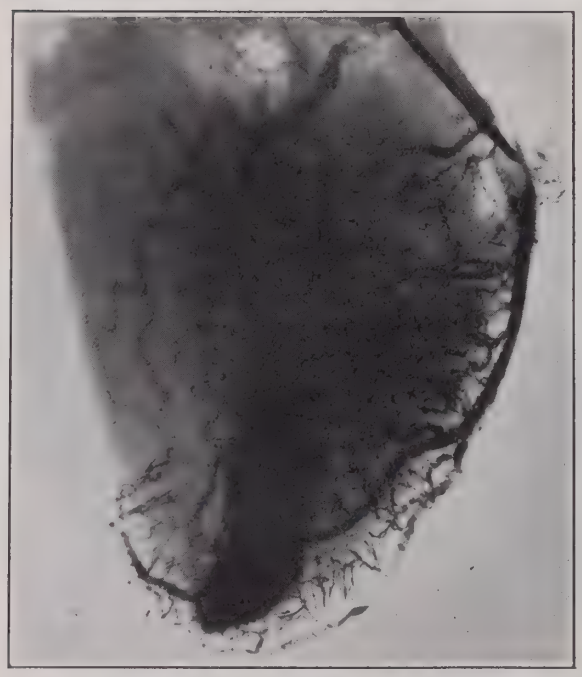

Fig. 14. Marked sclerosis of the left coronary. Compare with figure 12. Both hearts were injected with the same amount of pressure. Note the increased number of injected vessels.

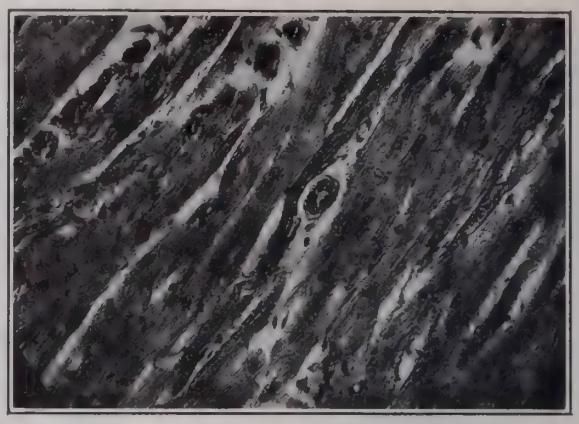

Fig. 15. Capillary fibrosis; no definite coronary sclerosis. The patient, a man aged 67, had had dyspnea and precordial pain for six months. The clinical diagnosis was cardiac dilatation and syphilis (the Wassermann was four plus); the pathologic diagnosis, chronic fibrous myocarditis with capillary fibrosis. Compare with figure 2.

This increase in the number of patent capillaries in certain conditions is one of the most striking findings in our experimental work, and while not new, it confirms the statements of Merkel, Spalteholz, Oberhelman and LeCount, and others, regarding the existence of collateral anastomoses in the heart muscle.

COMMENT

A moderate number of hearts do not show free anastomosis by injection. In these, the coronaries are potentially end-arteries, and occlusion of a coronary in such a heart would probably result in sudden death. However, in a larger number, the coronaries are only relatively end-arteries, for in hearts from patients with acute febrile affections and those showing coronary disease, many more capillaries, after injection can be visualized by x-ray. The degree of anastomosis varies widely in hearts free from pathologic lesions, and the extent of the anastomosis is increased when greater demands are thrown on the vessels. Gross[3] has stated that the collateral circulation is adequate when there is gradual obstruction of a large branch. Benson[6] says that in diseased coronaries, in which there has been gradual narrowing by sclerosis, the harm resulting from closure tends to be of less consequence *per se*. Both of these statements are supported by cases on record of occlusion of different branches without acute cardiac symptoms or death.

The symptoms of angina pectoris are so protean and the pathologic findings so variable that it seems next to impossible to pin this clinical syndrome to any one pathologic entity. We know only that in some way it is concerned with the vascular system; that frequently no cardiac pathology can be found; that at other times coro-

nary sclerosis with narrowing is present; that in still other instances chronic fibrous myocarditis is noted, or an acute myocardial infarct. Cabot[5] believes that syphilis in some way is concerned with the etiology, but does not know exactly how. Syphilis, we know, produces a progressive endarteritis with perivascular changes (figure 15). While the intermittent claudication theory of Allan Burns[11] might explain the pain in the presence of coronary sclerosis with marked narrowing, a further explanation is necessary when no cardiac pathology exists. But syphilis may also cause aortitis, another lesion frequently associated with angina. What relation these histologic findings, or the absence of them, bear to the clinical symptomatology it is difficult to say, and it makes one wonder whether the pain, so characteristic of the disease, may not be extracardiac and the result of an aortitis, as Sir Clifford Allbutt[12] has suggested.

SUMMARY

In all, fifteen hearts were injected.

Precapillary anastomoses between the coronaries do exist, the extent varying in each heart.

In only the minority of our series were anastomoses between the right and left coronaries demonstrated by the technic outlined.

The pressure needed to fill the capillary bed was found to be much higher than arterial blood pressure.

Many capillaries, not ordinarily in use, exist in the myocardium, and become patent and useful in hyperemia and coronary sclerosis if the onset is gradual.

Maple Avenue and Washington Lane, Wyncote, Pa.

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ABSTRACT OF DISCUSSION

Of Symposium on Disease of the Coronary Artery

ALLEN G. BECKLEY, M.D. (Philadelphia, Pa.): The etiologic factors underlying this condition present a large problem, and clinical study and thorough examination in all such cases should not be neglected. Doubtless, study of this peculiar disease has been stimulated during the last few years by modern methods of investigation.

GEORGE W. NORRIS, M.D. (Philadelphia, Pa.): During recent years I have seen several elderly individuals who presented what apparently was a typical picture of angina pectoris. In one instance the pain was severe enough to make the individual stop walking. In two instances the diagnosis was confirmed by other physicians who had experience along these lines. In these cases the symptoms were entirely and completely relieved, for a period of two years in one case, by the very simple expedient of colonic evacuation by means of oil and colonic irrigations. The mechanism of this effect is unknown to me. It might be that the patients had angina pectoris and that the attacks were aggravated by intestinal stasis and obstruction. This idea is particularly tenable in one case in which the patient remains well so long as the irrigations are continued from time to time.

DR. ROBERTSON (in closing): A number of men have reported that gastric lavage has brought relief in some cases. Probably the effect of washing out either stomach or colon is due to release of the pressure which induced inhibitory action of the vagus. This inhibitory action becomes more marked with age, and may be accentuated by anything that causes tension, such as the accumulation of gas. It may be observed particularly in the upper respiratory tract. There are cases on record in which inhalation of an irritating substance has promptly resulted in death. In the face of what is known about angina pectoris, it would require courage to attempt to wash out the stomach in such cases.

Case Report*

POSTOPERATIVE COLLAPSE OF THE LUNG

ROBERT M. ENTWISLE, M.D.
PITTSBURGH, PA.

Massive collapse of the lung is a term first used in 1908 by William Pasteur of London. He described the postmortem examination of a patient who had died of diphtheritic paralysis of the phrenic nerve. In this particular patient he noted a collapse or atelectasis of the lung. In 1910 he stated that he believed there was a connection between this type of lung collapse and certain postoperative complications. In 1914 he reported sixteen cases of true massive collapse.

During the war this condition began to be noticed first in chest wounds, and later, as observation became more keen, it was found in all types of postoperative and traumatic wounds. Since the war many cases have been reported.

Because of its striking clinical features it is a condition quite easily recognized, and once it is distinguished from pneumonia, the incidence seems to rise very rapidly. The etiology has not been satisfactorily determined. There are three theories, none of which entirely explains

*Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

it: (1) paralysis of the diaphragm on the affected side; (2) plugging of the bronchus with mucus, or other infected material; (3) vasomotor phenomena causing constriction of the bronchioles. Space does not permit discussion of these. It can be said in fairness that the etiology of this condition at present is unknown.

The clinical picture is startling. The onset may occur immediately after the patient awakes from the anesthetic, but most often comes about twenty-four hours after operation, although it may be delayed as long as four or five days. It is usually quite sudden, and is manifested by pain in the chest, dyspnea, cyanosis, rise in temperature and pulse rate, and dry cough. The affected side is retracted and smaller than the unaffected one. There is a decrease of motion on the affected side with subsequent decrease of breath sounds. In some cases, breath sounds are entirely absent, as is the fremitus, while in others, breath sounds are of the bronchovesicular type with very marked transmission of fremitus, the difference being due to the amount of lung involved. There is raising of the diaphragm, and the heart and mediastinal structures are pulled toward the affected side. This last is the most striking sign of the condition, and is almost diagnostic of collapse.

The conditions confused with this are pneumonia, pulmonary embolus, and cardiac embolus. Pneumonia is the one most commonly mistaken because of widespread dullness, with either depressed or bronchial breathing. When the condition begins suddenly, it simulates embolic processes very much.

The course of this condition is usually short, recovery taking place within four or five days in practically all cases, although the roentgenologic evidence of complete aëration of the lung may consume several weeks.

The mortality is extremely low, and therefore all types of treatment to date have been satisfactory, each writer on this subject claiming success for his particular method. There is first of all, the expectant or neglect treatment; second, the aspiration of mucus through the bronchoscope, as advised in 1925; and third, the postural treatment. This latter has been recommended by Santi, of St. Louis, who reports having seen massive collapse of the lung disappear under the fluoroscope when the patient was placed on the uninvolved side and moved forward and backward. He recommends this as a form of treatment, and also suggests that it may be quite helpful in a prophylactic way in patients who have just been operated upon.

Both cases reported here occurred before the publication of Santi's paper, and while they were both made to cough forcibly, they were not turned as recommended. Their recovery was extremely slow compared to those reported by him.

CASE 1. L. R., male aged 27, following a posterior gastrojejunostomy for duodenal ulcer, convalesced for forty hours uneventfully, when suddenly during the night he complained of pain in the right chest. He began to cough, and his respiration became markedly embarrassed. His temperature rose from 99° to 103°, his pulse rate from 90 to 160, and he became markedly cyanotic.

Examination revealed that there were practically no respiratory movements on the right side. The breath sounds were very much suppressed and very distant, and the apex of the heart was noted to the right of the right nipple. An x-ray examination was made at once, revealing almost complete collapse of the right lung, with the heart and mediastinal structures pulled towards the right side. The patient appeared to be critically ill for the next forty-eight hours, and from that time on, gradual but rather slow convalescence occurred. A picture taken three months after operation failed to show any difference in the two sides. This patient continued to have a temperature varying between 99° and 100° for twenty-six days following his operation.

CASE 2. J. C., male aged 35, following cholecystectomy for chronic cholecystitis, was in excellent general condition until about thirty-five hours after operation, when he suddenly complained of pain in the left chest, cough, and shortness of breath. He appeared critically ill, and was cyanotic, with a pulse of 140 and a temperature of 104°. The physical signs were identical with those in the case reported above, except that they were on the opposite side. The apex beat was heard in the left midaxillary line at the sixth interspace.

The recovery in this case was much more rapid than in the one reported above. Within twenty-four hours from the time of onset of this condition, all dangerous symptoms had disappeared, and breath sounds could be well heard throughout the entire left chest. Within six days, the temperature was normal and the apex beat had receded as far as the anterior axillary line. The heart did not, however, return to its normal position until two and one-half weeks later.

X-ray pictures taken at the onset of this condition showed a complete collapse of the left lung, the heart and mediastinal structures being pulled to the left. Subsequent pictures showed a fairly rapid recovery, the last picture taken three and one-half weeks after the onset showing very little abnormality on the left side.

121 University Place.

The American Academy of Stomatology

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Editorials

THE EPILEPTIC

Of all patients coming within the province of the general practitioner, none have so much human appeal as the group of children and adults classified as epileptic. Handicapped as they are by a disease which has baffled medical science for centuries, they are in early life a source of anxiety to their parents; are distressing to their playmates; and in later years they live in uncertainty, a burden to themselves, a menace to society, and a charge on the taxpayers. On the other hand, many thousands make a partial adaptation. This is due to the fact that in these cases the seizures occur at less frequent intervals. During the interim, however, they are potentially handicapped.

Mental medicine has not left unexplored this great field of opportunity for research and investigation. As a result, despite the fact that the group lacked special institutions for their care and trained personnel for scientific observation, and were badly housed in almshouses, jails, and mental hospitals—the latter with limited facilities for studying these patients—we know a great deal relative to the nature, diagnosis, and treatment of the disease.

We have learned that the epileptic child deprived of the necessary supervising care suffers hardships and fatalities; he becomes apathetic, discouraged, and socially dangerous to himself. The adult epileptic likewise, unless supervised, becomes a real economic, medical, and social problem. He is not only handicapped by vocational limitations, fear, and phobias, but eventually requires hospitalization as a result of the secondary changes (dementia) which arise.

Medicine, furthermore, recognizes a closer differentiation of this group and a more favorable prognosis in many instances, for example, (1) the spasmodic type, not essentially epileptic, due to many recognizable and correctible causes; (2) the Jacksonian type due to localized cerebral irritations; (3) the petit-mal type; and (4) the major type, which is the least hopeful.

Medicine, it would seem, is doing her part in attempting to control and outline appropriate treatment in this class of cases. Society, on the other hand, has not given these patients their just due. For example, modern medical procedures indicate a more definite knowledge of the individual child; mental clinics are needed in the field for his supervision during the home-care and training period. He is entitled to special educational opportunities, not only from the standpoint of adaptation to his handicap, but that he may live a partially useful life. Institutions are needed not merely for medical research, but as places where vocational training under supervision can be given, and where the refractory and hopelessly demented type can be separately housed.

Contrasting these needs with present facilities, we find that Pennsylvania has some, but not a sufficient number of mental clinics for home supervision; and as to housing facilities, she provides institutions dedicated to other purposes —almshouses, mental hospitals, Polk, and Pennhurst. The latter two are overcrowded, while the mental hospitals accept only the gross asocial types or those complicated by a psychosis.

Under the spirited leadership of the Bureau of Mental Health, however, steps have been made to provide facilities. In response to the need, sixty-one mental clinics are in operation, and an epileptic colony has been established at Selinsgrove, with an appropriation of $350,000 (two buildings) granted by the Legislature and the Governor. But this is only a beginning. More funds are needed to meet the pressing demands. Shall these funds be made available by the long-drawn-out procedure of piecemeal appropriation, by increased taxes, or by a bond issue? In the light of the past and the experience in another State, the fifty-million-dollar bond issue appears to be the proper procedure to provide such funds as are needed to assure physicians that their recommendations as to proper study and care of

patients will be put into ameliorating and healing practice.

THE COST OF MEDICAL CARE

On one hand, there is the physician whose education has cost $10,000 or more and who, on the average, is inadequately recompensed for his time and expenditure.

On the other, there is the public which almost to a man believes that the profession is coining money, that the cost of medical care is prohibitive, and that doctors are profiteering on the ills of the people.

How to reconcile these two conflicting views? The scientific method is first find the facts, then act on them. Dr. Olin West, Secretary of the American Medical Association, is quoted as saying: "The one great outstanding problem before the medical profession today is that involved in the delivery of adequate, scientific medical service to all the people, rich and poor, at a cost which can be reasonably met by them in their respective stations in life."

The solution of this problem has been put up to the Committee on the Cost of Medical Care, with headquarters at 910 Seventeenth St., Washington, D. C. The interests represented on this committee are: private practice, public health, institutions and organizations, economics, and the public. The personnel is made up of representative men and women, and the officers are: chairman, Ray Lyman Wilbur, M.D.; treasurer, Chellis A. Austin; director of study, Harry H. Moore, Ph.D. Of interest to Pennsylvanians is the fact that Dr. Arthur C. Morgan, our president, is a member of the committee. Five years, until July 1, 1932, have been allotted for the study. The work will be approached without preconceived ideas, and the results cannot be foretold at the present time.

To quote from the literature issued by the committee: "It is the hope of the committee that the completion of the program outlined will throw substantial light upon the following fundamental questions: the extent to which the burden of the cost of medical care and the incidence of sickness falls upon various economic and social classes in different types of communities, and the variation in cost to the individual families; the proportion of the cost of medical care in typical communities borne by the patient, the community, and the physician himself; the financial returns to physicians with various types of practice in particular areas and under particular conditions; and the comparative adequacy and economy of medical care under diverse plans and programs of emergency or distributed payment.....

"The American Medical Association, the United States Public Health Service, and the Metropolitan Life Insurance Company are among the agencies which have agreed to coöperate with the committee in the development of the program of studies. The support of the committee by the Carnegie Corporation, the Milbank Memorial Fund, the Russell Sage Foundation, and the Twentieth Century Fund has made possible the inauguration of the program.

"The committee believes that the facts which will be revealed by the studies should encourage practical experimentation by the medical profession and the public, and that they should lay a foundation for the provision of adequate and efficient therapeutic and preventive treatment to all the people at a reasonable cost to the individual and the community, under conditions which will assure the physician, nurse, dentist, and other agents adequate compensation."

The results of this study should be of the greatest importance, and it will be the aim of the Journal to keep our readers informed of the developments as they occur.

EDGAR FAHS SMITH

Dr. Edgar Fahs Smith, Philadelphia's most distinguished citizen, died on May 3, aged 72. For a decade he was provost of the University of Pennsylvania, and in this position represented eminent scholarship and achievement in science. He fulfilled the duties of directing academic activities by the faculty and student bodies with conspicuous success. Dr. Smith had a clear understanding of the functions of the modern university, and during the twelve years as vice-provost ably demonstrated his sterling worth in administrative duties.

Dr. Smith was internationally famed for his research in chemistry. He was a pioneer in contributing to the literature on the history of chemistry. In the late years of his life he devoted more time to this field than to scientific articles. No man in his position was more unassuming or less pretentious, always kindly and approachable, yet positive in speech when occasion required. He was the friendly monitor of many a student, to whom he always affectionately referred as "my boys"!

Dr. Edgar Fahs Smith was a benefactor of the public, and one who contributed in no small measure to the upbuilding of the nation's wealth.

The *New York Times*, in an editorial, stated: "When Dr. Edgar Fahs Smith died the chemists

of America lost their wisest counselor, the city of Philadelphia one of its greatest citizens, and the University of Pennsylvania one whose name will ever be kept high on her rolls as teacher—'the best beloved college professor in America.'"

While sons of Old Penn will grieve sorely, he was beloved by all his race. A great circle of friends and associates, a world of students in chemistry, and a great body of citizenship in his native city bowed their heads in silent respect for a man who was truly great.

HIDEYO NOGUCHI—CITIZEN OF THE WORLD

Hideyo Noguchi, the world famous Japanese bacteriologist, out of personal poverty, brought the world wealth beyond the value of gold or gems. By lifelong, painstaking study of the minute cosmos beneath the microscope, he conferred health and safety upon thousands of the rest of us. He sacrificed his own life that others might be saved, regarding his work as bigger than personal safety, the pursuit of science as greater than life.

Born in obscurity, raised by the importance of his achievements to eminence, comparatively little is known by the public of his personal life, except that he overcame handicaps which would have thwarted any one not possessed of the divine spark that made him one of the greatest of bacteriologists.

Dr. Noguchi came to America from Tokyo Medical College and became a member of the pathological staff of the University of Pennsylvania under Dr. Simon Flexner, who considered his services so valuable that he persuaded Dr. Noguchi to become associated with him in the work of the Rockefeller Institute in 1904. His name will always be intimately associated with the conquest of yellow fever. As a result of his work and that of his coworkers of the Rockefeller Institute, this disease has been practically driven out of South and Central America, and it was in the study of yellow fever on the Gold Coast of British West Africa that he became infected and died. Here he was able to find a species of monkey which was susceptible to the infection, and this was considered an important step forward in the research he was conducting. He wrote, after he became ill, that his was the first case of the disease to come under observation, and from his bedside he directed further experimentation which has practically proved many of the points he set out to discover.

The name of Hideyo Noguchi will go down in history as that of a benefactor of the human race, and his death enrolls him among the martyrs of science who have sacrificed their lives in the noble war on disease. It is a disaster that he should have been taken at the too early age of fifty-one. But the work which he loved so well must not be permitted to fail because his body was mortal. His spirit must carry on in the lives of those of us who are left.

CRITICISM

Criticism is of two types—constructive and destructive. Constructive criticism builds up: it builds countries, nations, municipalities; it builds men, character, reputation; it builds societies, churches, schools. The world is growing better through the services of constructive criticism. Our own liberty-loving country has progressed from colonial days to the high standards of today by means of constructive criticism. Our educational system has reached its present high plane by advancing on the shoulders of constructive criticism. The modern centers for training men and women in medicine and nursing have evolved step by step as a result of constructive criticism. These developments have been made for the betterment of the sanitary, social, mental, physical, moral, and religious life of the people of our beloved land. It can truthfully be said that all the good and all the progress since the world began has been the product of constructive criticism.

Notwithstanding, there is a class of people who seem to delight in obstructing progress by destructive criticism. Among these are the antivivisectionists, who think that the life of a dog is of more value than that of a child, and the antivaccinationists, who argue that smallpox should not be controlled by vaccination, that it is cruel to make a sore arm on a child. There is an antilaw group who have ignored the health laws of the State—laws that have added years to the average of life, relieved much suffering, and brought joy into the homes by creating a more healthful people—and who now pray—that these health laws shall be deleted from our statutes. They desire that all state boards of licensure be abolished and all health laws repealed, that they may select their own studies and the time required to complete their courses. Destructive criticism of this kind would set us back almost a century.

Destructive criticism in the ranks of the medical profession is, of all things, most condemnable; a wise look, a shrug of the shoulder, or a shake of the head may be sufficient to incite a suit for alleged malpractice. Many of the cases which reach the courts are the result of the inference of physician number two, who

looks at some deformity and suggests that "the treatment, of course, was so and so." Innocently he stirs up the thinking machine of the patient, who now recalls that his doctor did not treat him as this wise one has suggested, and the next thing is a suit for alleged malpractice. May all who read this article think well before expressing an opinion or even suggesting a plan of treatment when consulted by a patient formerly under the care of another physician or surgeon. It is so much easier to congratulate the individual on the results secured for him by his attendant. This will help to preserve the good feeling that the patient had for his former attendant, instead of poisoning his mind against one who did the best that could be done for the injured person.

"Do unto the other fellow as though you were the other fellow."

"THEY SAID 'IT IS AGAINST THE RULES'"

Rules and regulations are necessary for the maintenance of order, for the observance of orderly procedures in institutions, etc., and in the conduct of many activities in every-day life. When properly administered and interpreted they are of much value and produce peace and concord. When improperly interpreted they are fraught with distraction and mental anguish.

For some time, hospitals have found it necessary to discontinue the practice of permitting interns to make emergency calls outside of the institution, even in the immediate neighborhood of the hospital. Is a hard and steadfast adherence to this rule always in order? We know of a recent occurrence when a physician living in the immediate neighborhood of a hospital which he frequented was ill, and his wife (a graduate nurse) thought he was dying. She 'phoned the physician in attendance, who lived a considerable distance away, of her fears, and he started immediately to respond to the call. The wife realizing that her husband was passing away, and hopeful that immediate aid might ward off the fatal issue, 'phoned the hospital in question, requesting that an intern be sent immediately. She states that she was abruptly informed "It is against orders."

When the physician in attendance arrived he found the wife with her arms around her beloved dead, shrieking in the insanity of her grief "They said 'it is against orders!' They said 'it is against orders!'"

We cannot help but feel that the request made for help for a dying physician should have been met with an immediate response, and not "it is against orders."

JOTS AND TITTLES

A Hint as to the Origin of Species

Dr. William H. Diffenbach, of the Flower Hospital, New York City, has been experimenting on the exposure of hens' eggs to x-rays, with interesting results. By varying the exposure, he has been able to produce many mutations from the normal chicken, some of them great improvements over existing stock and some of them deformities. One interesting result was the production of more females than males from radiated eggs. It is suggested that this gives a key to the mystery of the origin of species.

Sports Not Cause of Athletic Heart

That the "athletic heart" is more common among men than women, and that it was abnormal before its possessor indulged in sports are conclusions drawn from an investigation carried on at Temple University, Philadelphia during the past two years. The tests, made in the gymnasium, consisted of a preliminary physical examination and a functional test to see how the student's heart reacted to a given amount of work. Electrocardiographic tracings of the heart contractions were made next, and every six months an x-ray plate was taken to determine the size of the heart. In almost every instance of "athletic heart" it was shown conclusively that the organ was not normal at the start, while students with normal hearts were put through violent paces without ill effect.

Debunking Drugs

In the March issue of the *American Mercury* an article appeared by Mr. Arthur J. Cramp entitled "Debunking Drugs." Mr. Cramp has given a very fair and accurate picture of the nostrum and proprietary situation. His statements are all in accord with the facts. We often wonder if the members of the medical profession are generally aware of the painstaking and altruistic work which has been done by the Council on Pharmacy and Chemistry of the American Medical Association. The article deals, not with the methods by which the public is, or has been, directly humbugged in the medical field, but rather with those activities whereby the public has been imposed upon *indirectly* through the ignorance or indifference of a section of the medical profession. Especially does it discuss the means organized medicine takes to prevent such imposture.

Medical Progress—A Journal for Laymen

The American Association for Medical Progress recently published the first number of a journal under the above title. The subscription price is one dollar. This Association was organized a few years ago with the object of combating propaganda of antivivisectionists and antivaccinationists, and of promoting a better understanding of medical aims and methods among the laity. We congratulate them upon this extension of their work.

A Home for Cambria County Society

The Cambria County Medical Society has a committee on a permanent home which has taken on great activity in the recent past. Options on a site have been taken and pledges are now being made, with prospects of steady progress to completion. This Society is to be

congratulated upon its progressive leadership. We extend our best wishes for the successful execution of their project.

The Women Do It Now

According to the *Philadelphia Record,* in its column "Twenty-Five Years Ago" on April 17, 1903, "a physician of Carlisle, Pa., was fined sixty-seven cents for each of four oaths uttered in the presence of a female patient." That was twenty-five years ago. We have no complaints in this regard. Possibly this pastime has discontinued—or the increased cost of living has made it prohibitive—and again the "females'" point of view may have changed!

Attractive Advertising Literature

Recently we received from the Abbott Laboratories two pieces of advertising literature so "different" and so usually attractive that we cannot refrain from mentioning them here to commend. They are in modern style, and in coloring that brings out both design and idea better than anything we have so far seen in the medical line. In addition to being a convenient reference book, the "Price List" is actually a decoration to the physician's desk. A physician told us recently that he thought medical advertising did not "get the idea across." Perhaps if it were always so attractively garbed, it would be more successful.

Activities of Canadian Medical Organizations

Significant advances in the care of public health, study of the causes, courses, and cure of various diseases, and improved clinical methods of treatment are to be made during 1928 by Canadian and Ontario medical associations and allied organizations. A feature of the Ontario Association convention is the elimination of section meetings. This year all scientific papers and discusions thereon are to be delivered before the Association in general session. This is designed to promote more general interest within the profession in the various phases of research and clinical experience. An important matter which will be dealt with by the Canadian Association will be the Ottawa bill which will confer upon Canadian graduates of schools of medicine and surgery the right to acquire from local sources the degrees "Fellow of the Canadian College of Physicians" and "Fellow of the Canadian College of Surgeons." Degrees of this character for specialists are now to be obtained only upon taking postgraduate courses in London and Glasgow. The Canadian Association has a committee prepared to report favorably on this proposal.

The Unfit

"The decay of the race is startlingly shown by the figures of the unfit naval candidates just issued by the British Admiralty. In the past year only 5,600 men were accepted out of 53,900 candidates," says Sir Arbuthnot Lane, the distinguished London surgeon. "Obviously, naval candidates are mostly young men not of the weedy type, yet only 10.03 per cent are fit enough to be sailors. Is it not an appalling commentary on the health of our youth?" Of 53,900 candidates, only 11,000 odd reached the doctors. England needs periodic health examinations!

College Plans to Increase Rural Medical Service

Albany (New York) Medical College plans to use the income from part of an endowment fund of $2,000,000 now being raised to strengthen the graduate department and to extend the scope of its courses so that physicians in the northeastern part of the State practicing in rural communities may be better able to keep abreast of advances in medical technic and practice, according to *Health News.* A department of regional extension or medical education will be established which will have charge of graduate work and the problem of medical service in the region indicated. One of the objects will be to develop a system by which the college will aid physicians in arranging for the care of their practices while they are taking postgraduate work. Likewise, postgraduate courses will be so arranged that physicians can attend at periods most convenient for them. In coöperation with Union University and government agencies, the Regional Extension Department will conduct surveys of the need for physicians in all parts of northeastern New York, and the most efficient and economical methods for meeting these needs. By extension lectures, publications, correspondence, and publicity, the Department will aid physicians who cannot come into direct contact with the College, as well as help those country communities not in close proximity to local hospital centers. The five-point program of the College is as follows: To give preference to students coming from northeastern New York; to train them primarily for general practice; to point out to its graduates and graduates of other colleges, locations in this region where physicians are needed; to aid these men in the field by affording them greater opportunity for review and advanced postgraduate courses; and to educate rural communities to the need for employing their local doctors in caring for the majority of their ills rather than only in those instances when acute sickness requires immediate attention, as is the tendency today.

Official Registries for Nurses

Anagrams, the publication of the American Nurses' Association, calls attention to the difference between nurses' registries. Janet M. Geister, headquarters director, classifies them as follows: "There are four types of registry, that conducted by a commercial agency, that maintained by an individual nurse, that of a hospital, and that of the district or state nursing organizations. Commercially or individually conducted nurses' registries often obtain excellent results and from them often can be obtained a high type of nurse. Hospital registries are usually maintained by the hospital or hospital alumnæ for its graduates, and generally speaking, the nurses who enroll there for duty go back into the hospital on their cases. The safest and surest means of guaranteeing for yourself the kind of nurse you want and have a right to demand is to use the registry of the alumnæ or district association. These are usually called official registries. It is one of the aims of the American Nurses' Association to develop these official registries throughout the country as an added means of protecting the public."

Opportunities in Government Service

A booklet has been received from the United States Civil Service Commission describing "Opportunities in Medical and Hospital Work in the United States Civil Service." Doubtless those who are especially interested can secure a copy on application to the Commission at Washington, D. C. According to the preface, many thousands of professional men and women and skilled subordinates are included in the group of medical and hospital workers under civil service. The entire personnel of the Public Health Service exceeds 8,800, and there are several thousand medical and hospital employees in the force of the Veterans' Bureau. The

medical and hospital activities of the civil service are varied as well as extensive. The pamphlet describes those positions which are subject to open competitive examination. Applications for examinations for positions cannot be accepted until after an examination has been announced. Examination announcements are given wide publicity, and may be consulted at the post office or customhouse in any city. Persons who desire to be notified of the announcement of an examination of any kind may place their names on file with the Commission.

Medical Economics in York County

On July 1, 1926, the York County Medical Society adopted the following resolution: *"Resolved,* that a minimum fee of five dollars should be charged for a periodic health examination which can be conducted with the following armamentarium: weight scales, chronometer, clinical thermometer, sphygmomanometer, tape measure, stethoscope, spot light, tongue depressor, nasal and ear specula, eye test chart, flesh pencil, rubber gloves, test tube, urinometer, and litmus paper. This conforms with the requirements of the blank adopted by the Medical Society of the State of Pennsylvania as a working basis for the conduct of these examinations. Any additional technic should merit a proportionately larger fee."

On July 7, 1927, the following resolution was adopted: *"Resolved,* that each and every physician who desires to do immunization work shall designate one hour each week as "immunization hour" and shall exert every possible effort to induce parents among his clientele to have their children presented at his office during this hour for immunization against smallpox and diphtheria as well as any other communicable disease for which immunization may be provided. The several health departments and the Visiting Nurse Association shall be requested, in writing, to coöperate in these efforts by referring all immunization cases, including those who are unable to pay, to these physicians. Be it further resolved, that the Health and Public Instruction Committee shall periodically supply the local press with information relative to this innovation and shall also endeavor to secure official recognition of the organized medical profession in every future welfare movement in this community undertaken with the assistance of its members."

The Committee on Medical Economics, in considering preschool clinics in York County for the purpose of giving immunization treatment and periodic health examinations to preschool-age children, has called attention to these resolutions, stating: "It is the sense of this committee that these resolutions cover the question under consideraion with the exception that the latter shall also include periodic-health-examination work, and the second paragraph shall read as follows: 'The officials of the Medical Society of the State of Pennsylvania, the officials of the State and local health departments, and the officials of State welfare organizations shall be requested, in writing, to encourage local community welfare organizations to coöperate in these efforts by referring all immunization and periodic-health-examination cases to these physicians. Those who are unable to pay shall be referred to the above-named preschool clinics to be examined and immunized free of charge upon presentation of a written request from any legalized medical practitioner in York County.'"

This report was approved by the York County Medical Society April 19, 1928, and is published here with the endorsement of the State Society president, for the information of other county societies which may have the same situation under consideration.

MEDICOLEGAL AND LEGISLATIVE NOTES

Freeman Commission Meeting.—The State Healing Art Commission met at the Capitol at Harrisburg on May 19th to discuss plans for the standardization of educational requirements of practitioners of the healing art in Pennsylvania. The plans proposed, it is said, will be given to the Legislative Reference Bureau for the drafting of a tentative law to be placed before the Legislature at its next session.

Senate Ratifies Sanitary Treaty.—On March 22, 1928, the United States Senate ratified the revision, signed at Paris on June 21, 1926, of the 1912 International Sanitary Convention. Among the subjects dealt with in this treaty are maratime quarantine, the reporting of outbreaks of disease, sanitary precautions in infected ports, and other matters relating to the prevention of the spread of diseases from one country to another. More than forty nations signed this revision. The representatives of the United States at the meeting were Surgeon General H. S. Cumming and Surgeon W. W. King, of the Public Health Service.

Imposition on Physicians.—It appears probable at this writing that the recommendation of the national Senate Committee on Finance that the tax on physicians, dentists, and veterinarians under the Harrison Narcotic Law be increased from one dollar to three dollars a year, will be accepted by the Senate. According to the *Journal A. M. A.*, "not an inkling of the proposed increase escaped from the Treasury Department. Notice was not given; hearings were not held by the Committee on Finance.....Not until the committee had acted and was ready to make its report, was an increase in the narcotic tax even suspected." The increase was made under the claim that the Government has not the funds with which to enforce the Harrison Law, and that additional funds are needed to establish constitutionality, although it has twice been declared constitutional by the Supreme Court. This increase is not compatible with the proposal to decrease general taxation because of the overflowing condition of the Treasury.

It is probable also that the appeal to permit deductions from the income-tax report of moneys expended in attending professional meetings, in company with other professional and business men, will also be denied, as recommended by the Committee on Finance.

It is possible for physicians to secure just recognition by their legislative representatives—but not unless they make their wishes known to these representatives in unmistakable terms and adequate numbers. So long as they are willing to bow their necks to the yoke, the yoke will be placed thereon. Their organization representatives alone cannot produce results unless the individual members who make up the organization will assume each his own responsibility.

Giving Medical Treatments by Unlicensed Practitioner in Violation of New Jersey Medical Act.—In an action by the New Jersey State Board of Medical Examiners against a chiropractor for practicing medicine and surgery without license, it was held that a chiropractor who gives electrical treatments for various ailments exceeds his authority as a licensed chiropractor. The defendant claimed to be excused by the provision of the New Jersey Medical Act exempting therefrom and person resident in the state, "who has been continuously engaged in giving treatment by electricity herein during the past fourteen years; provided that said person has graduated from a legally incorporated

electrotherapeutic school in good standing." There was, however, no evidence in the case that he *continuously* was engaged in giving treatment by electricity in the *State of New Jersey* during the past fourteen years, or that he was such a graduate as the statute described. On that ground, judgment for the defendant was reversed. State Board of Medical Examiners v. Levesey, New Jersey Supreme Court, 140 Atl. 144.

The same court holds, State Board v. De Young, 140 Atl. 676, that the giving of electric treatments by any one not a physician duly licensed to practice medicine and surgery under the Medical Act is a violation thereof, and an osteopath, licensed under the Act of April 2, 1913, who gave such treatments was held to have violated section 10 of the Medical Act.—*Medical Journal and Record.*

Proof of Practicing Medicine and Surgery Without a License.—Evidence that the defendant had a sign with "Dr." before his name and office hours on his door; that he had a treating room and that he diagnosed and undertook the diagnoses of the troubles of certain witnesses, and treated them somewhat after the manner of a chiropractor, was held sufficient to sustain a conviction of violation of the New Jersey Medical Act by practicing medicine and surgery without a license. State Board of Medical Examiners v. Hirsch, New Jersey Supreme Court, 140 Atl. 312. A similar case was decided in the same way by the same court, in State Board v. Walker, 140 Atl. 420.—*Medical Journal and Record.*

Those Educational Petitions.—In the section of the Officers Department devoted to the Committee on Public Health Legislation there will be found a list of the number of names secured to this important petition tabulated by counties. It is distressing to note that twenty-one counties have failed so far to send in a single name. If the physicians of those counties do not manifest an interest in the votes of their respective legislative representatives, how can they blame these representatives if they respond to the cultists' overwhelming overtures with their votes? The election is only six months away. Votes talk, and signed petitions will shout. Now is the time to get busy. Take a page from Dr. O'Brien's notebook. He has sent in 304 signatures.

The Chiropractic Teacher.—On page 691, in the Philadelphia County Medical Society Report for April 18, 1928, there is a résumé of a most interesting address by a former teacher in a chiropractic college. Read it and weep!

PUBLIC HEALTH

Tuberculosis Society Organized in Warren County.—As a result of the enthusiastic interest of members of the Warren Lions Club, the Warren County Tuberculosis Society has recently been organized, with Dr. J. R. Durham as president. The Society will be intimately connected with the Lions Club, which will assure a continuance of the interest manifested by this organization.

Biological Licenses Revoked.—The Bureau of Animal Industry of the U. S. Department of Agriculture has revoked the license of one firm producing biological products and suspended the license of another. The cause in the first instance was the fact that the "establishment was found to be defective, insanitary, and improperly conducted, and products therein were found to be contaminated." In the other case the Bureau found that "production figures had been manipulated and false records presented to Bureau employees." In addition, investigation showed that "the establishment had prepared a quantity of serum without Bureau supervision, and was not holding it under Bureau lock, that technic was faulty, equipment improperly handled, and insanitary conditions permitted to exist."

Scholarships in Health Education.—The Massachusetts Institute of Technology, through its Department of Biology and Public Health, has announced the establishment of two full tuition scholarships for women in the field of health education—one or both of these scholarships to be awarded on or before the last day of July, 1928, according to standards and procedures arranged by the Scholarship Committee and the Department of Biology and Public Health. The amount of each is $400.

At least one and perhaps both of these scholarships will be awarded to a candidate or candidates recommended by the National Tuberculosis Association. The right, however, is reserved to give one of them to another candidate if an application is received from one whose need and qualifications seem to be distinctly greater than that of any candidate applying through the National Tuberculosis Association.

The awards will be based upon the nature and quality of the previous academic work of the applicant, the ability which she has already shown in professional work in the field of public health or education, her need of scholarship aid and the probable value of her further contribution to health education.

All those who are interested in applying for these scholarships are invited to communicate with the Child Health Education Service of the National Tuberculosis Association, 370 Seventh Avenue, New York City.

Committee on Cancer Control.—The following committee was recently called by the United States Government to outline a program for cancer control: Dr. Francis Carter Wood, Crocker Research Foundation; Dr. James B. Murphy, Rockefeller Institute; Dr. William Howell, Johns Hopkins Medical School; Dr. Warren Lewis, Carnegie Institution of Washington; and Dr. Joseph W. Schereschewsky, Public Health Service. The committee has recommended an attack along three lines: improvement in surgical and radiation technic, educational propaganda to the laity and the profession, and increased effort to discover the cause and cure of the disease. More information is needed, according to the committee, in regard to occupational cancer and the geographical distribution of different types. Examples of types that have had little study were quoted, such as cancer among tar, brass, and dye workers, and "spatter-burn" cancer of workers in steel mills. An appeal was made for additional funds to carry on the needed research.

Activities of the Pennsylvania Department of Health.—Dr. J. Moore Campbell, chief of the communicable disease division, blames a West Virginia bootlegger for the recent appearance of smallpox in western Pennsylvania. The first case which developed in Somerset County was diagnosed as chickenpox, and no immediate restrictive measures were taken. In less than a week seventeen other cases were discovered. The outbreak is now under control. In the past two years smallpox has not caused a death in Pennsylvania. Officials are eager to maintain that record.

Three new motorized laboratories have been equipped for the additional work which has recently been started on a scientific study of sanitary conditions of five

major streams within the Commonwealth. The work will be supervised by F. E. Daniels, chief of the industrial waste section of the Department's bureau of engineering.

Examination and placarding of private water supplies along the highways of the Commonwealth was started in the Philadelphia section about May 15th. The State has been divided into seven districts, and 525 miles will be added to this year's inspection. A total of 3,325 miles are to be inspected. It is planned to complete the work by July 15th.

Dental Health Week was celebrated coincident with the annual child-health celebration during the first week of May. Less than two per cent of the American people visit their dentist regularly. Records of the Department of Public Instruction, which coöperates annually, show that dental defects are discovered in seventy per cent of the pupils.

The communicable disease division has announced that a second case of Malta fever has been reported from Media in the same family in which the original case appeared.

The restaurant hygiene division has completed inspections in Lackawanna, Luzerne, Montour, and Columbia Counties. Wider observance of the regulations governing the handling of food in public places was noted, and only one prosecution was brought in this section. The entire State will be covered during the summer.

More than 16,000 patients have been admitted to Cresson Sanatorium since it was opened. During the past thirty days, 700 patients were treated at the institution. Those admitted during that period numbered 59.

For the past two years the waiting list of women in the State tuberculosis sanatoria has been very much larger than that of men. One ward at Cresson and two wards at Hamburg, formerly occupied by men, have therefore been refitted and renovated for use by women patients.

Running Water Is not Always Pure.—With a persistence which entitles it front rank among hygienic fallacies, the idea has long clung to the popular mind that running water, if not always pure, will at least purify itself in a dozen miles or so. Disastrous consequences following too literal application of this erroneous principle to the selection of municipal water supplies has prompted numerous scientific investigations both here and abroad. A critical review of these researches, with a bibliography of over 170 references, is given in part one of a publication entitled "The Oxygen Demand of Polluted Waters" recently issued by the United States Public Health Service as *Public Health Bulletin No. 173.* Part two of the same bulletin is devoted to the presentation of an extensive series of experiments conducted in the Stream Pollution Laboratories of the Public Health Service.

Briefly, it may be stated that a water contaminated with the organic matters found in sewage and in various industrial wastes does gradually rid itself of such pollution, if allowed free access to air. Early studies of this phenomenon of self-purification led to the abandonment of a plausible theory based on the direct action of oxygen on the organic matters, and subsequent research extending over the past fifty years has revealed that the self-purification of streams is essentially a biologic process. In this sense, the oxygen contained in aërated or running water does not operate as a sterilizing agent, as once believed, but rather as a neutralizing or deodorizing agent for some of the gases resulting from the bacterial decomposition of the organic matters. Dissolved oxygen is also required for the maintenance of fish life. While thus relegated to the secondary rôle, the amount and rate of disappearance of the oxygen which is contained in a given water nevertheless serves as an excellent indicator of the threatened disappearance of fish life, and with increasing pollution, as a warning of impending nuisance conditions. With the understanding that a bacteriologic examination is a much better index of wholesomeness or fitness for drinking purposes, it has accordingly become customary to express the pollution of a given water in terms of its demand for dissolved oxygen when reference is made to the threatened disappearance of fish life or to the approach of nuisance conditions.

On the basis of the extensive series of observations presented in part two of *Public Health Bulletin No. 173,* it has become possible to give numerical expression to the actual rate at which the oxygen demand of a water is satisfied. The outstanding feature of this section of the report is that the rate at which the organic matter is oxidized, while strikingly uniform with a variety of waters, is exceedingly slow. Thus, in a given experiment with Ohio River water collected at Cincinnati, oxygen continued to be used up for fully 300 days, and bacteria of intestinal varieties persisted for almost that length of time. Even in the absence of intervening pollution, it would be necessary to allow for a stream flow of several hundred miles before a water once polluted could regain its pristine purity. Irrespective of distance from the nearest upstream point of known pollution, it may be safely stated that no river in the United States can now be regarded as hygienically safe without treatment. Conversely, the possibility that a water polluted with sewage might be fully purified by flowing for "a dozen miles or so" becomes too remote for serious consideration.

Principal Causes for Illness in a Typical American City.—A study conducted by the U. S. Public Health Service, extending over more than two years, in a city regarded as a typical American small city in one of the eastern states, has yielded information of considerable interest.

The rate of sickness from colds and bronchitis was the highest, being annually 418.6 per 1,000 persons. Influenza and grippe came second with a rate of 143.2 per 1,000; diseases of the digestive system were 96.5 per 1,000; tonsillitis and sore throat, 65.7; confinement and other puerperal causes, 46.9; diseases of the nervous system, including headaches, 44.1; accidents and other external causes, 39.5; measles, 34.2; whooping cough, 22.6; rheumatism and lumbago, 21.8; heart and other circulatory diseases, 18.3. The list contains ten or eleven more items, and concludes with hay fever and asthma, which is shown to have caused 5.8 cases of sickness each year per 1,000 persons.

From this study, fairly accurate records of real illnesses were secured. As a matter of fact less than 5 per cent of the illness of exactly stated duration were recorded as one day or less in duration; nearly 80 per cent were three days or longer; and 60 per cent were eight days or longer in duration. Approximately 40 per cent were not only disabling, but caused confinement to bed. It is evident, therefore, that in the main the illnesses recorded were more than trivial in their character, in spite of the fact that in some instances mere symptoms were given as diagnoses.

There are certain facts from this study that stand out

with particular significance. First, the extraordinarily high incidence of sickness shown in early childhood was a rather surprising result. Illness was far more frequent under 10 years of age than at any other time of life. Second, the interesting suggestion was afforded that the average individual is more free from illness in the age period 15 to 24 years. Thereafter sickness becomes more frequent as age advances, and it may be added, upon the basis of other studies as well as these, that sickness becomes more severe and more frequently fatal.

The picture given by the record of sickness according to causes, or more precisely, according to the kind of sickness, is in sharp contrast to that given by causes of death. Respiratory diseases and disorders account for 60 per cent of sickness as against 20 per cent of deaths. The general group of "epidemic, endemic and infectious" diseases account for 8 per cent of illness, whereas only about 2 per cent of the deaths were due to this group. Digestive diseases and disorders caused 10 per cent of the illness as against 6 per cent of the total deaths. On the other hand, the group of general diseases (which includes cancer, the diseases of the nervous and circulatory systems, and the diseases of the kidney and related organs) were relatively much more important causes of death than of sickness. The diseases of the heart and blood vessels show the sharpest contrast—24 per cent of deaths are due to these conditions, as against only 2 per cent of the sicknesses. In other words, these diseases manifest themselves relatively rarely in definite attacks of sickness, although they undoubtedly shorten life and make life much less enjoyable while they last.

The prevalence of "chronic" conditions as ascertained by this study is of interest. Of each 1,000 individuals, on the average 34 were affected with arthritis, lumbago, and myalgia; 22 with neuralgia, neuritis, and sciatica; 21 with diseases of the heart; 10 with chronic indigestion and other intestinal disorders; 10 with appendicitis and 7 with nephritis.

The further query suggests itself—at what age is the individual least able to withstand diseases after he has been attacked? One way to measure this is to compare the attack, the greatest resistance to death in childhood being the age period 5 to 14. The lowest resistance is in infancy and early childhood, 0 to 4 years, and in middle and old age. Ability to survive illness thus varies markedly from resistance to illness at different ages, particularly in childhood (5 to 14), when the average individual suffers from illness frequently, but has a relatively small chance of dying, and in the older years when not only does susceptibility to illness increase, but also his chance of death. This is due partly, of course, to the nature of the illness occurring at these ages, and partly to the diminished ability to resist the diseases which manifest themselves in sickness.

It is believed that one of the most important lessons to be drawn from this study is that public health has as yet barely touched the task of preventing the conditions which manifest themselves in physical and mental impairments, in inefficiency and illness, and in postponable death. Plague and pestilences have been diminished, infant and child mortality from infectious and intestinal disorders has been decreased, and healthful living is being established more and more firmly as a popular ideal, but aside from these the prevention of disease remains as an outstanding problem yet to be solved. The hope of the future lies in the continued and increasing growth of scientific knowledge which can be applied to the protection against disease, and the promotion of the public health.

Morbidity in Pennsylvania in March, 1928

Locality	Disease				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Aliquippa	2	150	5	0	7
Allentown	20	53	63	1	12
Altoona	3	1	24	0	10
Ambridge	5	21	9	0	0
Beaver Falls	0	47	9	0	0
Berwick	0	0	0	0	0
Bethlehem	6	4	46	0	9
Braddock	0	20	1	0	5
Bradford	2	13	5	0	1
Bristol	0	2	2	0	2
Butler	1	15	0	0	3
Canonsburg	1	0	0	0	1
Carbondale	1	0	1	0	0
Carlisle	0	0	1	0	0
Carnegie	2	19	0	0	0
Chambersburg	1	0	4	0	0
Charleroi	0	0	0	0	4
Chester	1	90	2	0	1
Coatesville	0	0	0	0	0
Columbia	2	0	0	1	2
Connellsville	1	0	0	0	0
Dickson City	5	4	1	0	0
Donora	0	1	1	0	0
DuBois	3	0	15	0	1
Dunmore	0	0	0	0	0
Duquesne	1	1	6	0	1
Easton	7	82	4	0	0
Erie	23	9	173	0	24
Farrell	0	1	0	0	0
Greensburg	1	14	3	0	0
Harrisburg	1	16	35	1	12
Hazleton	1	57	3	0	11
Homestead	0	1	2	0	0
Jeannette	3	4	1	0	0
Johnstown	27	6	9	0	7
Lancaster	1	137	3	0	42
Lebanon	1	0	7	0	0
McKeesport	1	30	9	0	9
McKees Rocks	5	1	1	0	0
Mahanoy City	1	0	0	0	2
Meadville	0	0	0	0	1
Monessen	1	2	0	0	0
Mount Carmel	0	2	1	0	0
Nanticoke	3	21	5	0	0
New Castle	0	23	4	0	1
New Kensington	1	6	12	4	0
Norristown	0	2	9	1	0
North Braddock	0	10	0	0	0
Oil City	2	1	1	0	0
Old Forge	5	0	0	0	0
Olyphant	0	0	0	0	0
Philadelphia	299	1,678	509	4	388
Phoenixville	0	3	11	0	1
Pittsburgh	79	656	97	4	67
Pittston	11	25	0	0	0
Plymouth	6	38	5	0	0
Pottstown	1	10	5	0	5
Pottsville	1	0	1	0	1
Punxsutawney	1	0	1	0	0
Reading	19	16	135	0	4
Scranton	22	42	31	1	15
Shamokin	3	0	1	0	2
Sharon	0	0	3	0	1
Shenandoah	3	0	0	0	0
Steelton	0	4	1	0	3
Sunbury	0	2	2	0	5
Swissvale	3	4	6	0	0
Tamaqua	1	10	6	0	21

Locality	Disease				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Uniontown	0	1	6	0	0
Warren	0	3	15	0	3
Washington	0	29	1	0	0
West Chester	0	1	4	0	0
Wilkes-Barre	22	198	2	0	5
Wilkinsburg	1	190	6	0	14
Williamsport	6	6	4	0	40
York	0	19	22	0	2
Total Urban	619	3,801	1,351	17	745
Total Rural	338	2,869	1,277	36	562
Total State	957	6,670	2,628	53	1,307

Correction: There were no cases of typhoid fever and 22 cases of whooping cough in Warren in February, 1928.

HOSPITAL ACTIVITIES

Day of $20-a-day Special Nurse Coming.—That the day is coming when graduate nurses will specialize, much as do physicians and surgeons, and when their fees will be graduated according to their skill and the type of work they do, was the statement of May Ayres Burgess, Ph.D., Director of Study, Committee on Grading of Nursing Schools, in an unofficial talk before the meeting of the Council on Medical Education and Hospitals of the American Medical Association, Chicago, in February. Dr. Burgess frankly said that this part of her talk was entirely unofficial, because it was based on findings which had not yet been fully considered by the Committee and on which, therefore, no action had been taken. But she felt that her prediction would be concurred in. Hospital administrators are interested in many phases of the work the committee has undertaken, and Dr. Burgess' prediction concerning the future activity of the special nurse and her fees probably is of most interest to them. The prediction concerning the nurse specialist followed a bird's-eye view of the nursing field as seen through the statistics and information obtained by the committee.

Dr. Burgess pointed out that at present all nurses are expected to give satisfactory service of a wide variety, at a standard cost, no matter what type of service this may be. She said, in effect: "The day will come when nurses will secure special preparation for service in pneumonia, for example, and will be especially sought as experts in the nursing care of pneumonia patients. Today, the nurse who is experienced in certain types of work may be called on for service which could be equally well rendered by a less experienced graduate, and yet the latter is paid just as much as the more valuable nurse. It is not logical that a person needing only custodial care should have to pay the same for this as a person requiring and receiving intensive highly skilled nursing. This elementary nursing should not cost as much as the other. And so I am going to make a statement, entirely unofficially, however, which I believe will eventually come true. That is, that the day is coming when there will be the $20-a-day nurse, who will be a specialist, and who will be called for the intensive care of patients suffering from conditions in the nursing of which she has specialized. There also will be other grades of nurses whose remuneration will be in proportion to their experience and skill. For patients requiring only routine attention, there will be the $3- or the $4-a-day nurse, and for the chronic patient who requires very little skilled service there also will be a special type of nurse. In other words, I believe that instead of the present method of expecting all degrees of nursing from any nurse and paying all nurses the same salaries, the time is coming when the nurses will be separated and classified, and will be paid what each is worth."

Dr. Burgess' remarks were based on a considerable amount of recent material made available to the Committee, including information obtained from questionnaires returned by 35,000 nurses, 28,000 doctors, 1,500 hospitals, and 2,000 patients. In conclusion, Dr. Burgess summarized in four points the latest study of the material at the disposal of the committee: (1) The nursing profession needs to clean house. (2) Steps should be taken to put up bars against undesirable candidates entering the field. (3) The nursing profession should keep track of and help all members to do the job for which they are best fitted. (4) The nursing profession should provide far more flexible nursing service than ever before. Dr. Burgess concluded her remarks by saying that although these objects were difficult of attainment she felt sure the nursing leaders were already thinking about them and would be able to accomplish them.—*Hospital Management.*

Should Members of the Staff and Their Families be Granted a Reduction in Hospital Rates?—This question has been asked the *Modern Hospital* by the administrator of an institution in the South. It appears to be a question worthy of comment. The treatment of the hospital's personnel when ill, and the charges that should be exacted therefor, are questions that concern administrators everywhere. Training-school alumnæ associations often endow beds in the hospitals in which their members were trained, for the treatment of graduate nurses when ill. Resident-physicians' associations also sometimes adopt this scheme. But particularly disturbing is the question as to whether the hospital has an obligation to give free treatment to its department heads and to minor employees, such as orderlies, attendants, and firemen, when any of these persons become sick.

Hospital administrators are not inclined to establish a general rule applying to all such persons, but prefer to individualize to the extent of differentiating between those of long service and particular faithfulness and those who have served the hospital for a shorter time and whose services may not have been in any way unique. It is the general feeling that the hospital should give free treatment to its personnel, particularly when the individual has labored at a small recompense in the interest of the hospital. Free treatment is almost universally afforded to members of the intern and nursing staffs. In regard to the members of the visiting staff, it is usually felt that the hospital should give free service to visiting physicians and their assistants should they become ill during their active connection with the hospital. This privilege is not always extended to the members of their families. Indeed, while some institutions are inclined to give free care to the wives and children of members of the visiting staff, just as often a cost price is placed on this service, although usually this treatment is given in private roms. It is a well-known fact that the cost price of private rooms is considerably less than the usual current rate. It appears fair, therefore (and staff members do not usually expect

free service for the members of their families), for the hospital to charge a cost price for this service. Moreover, medical care is customarily given gratis by the physician's colleagues on the staff.—*The Modern Hospital.*

INDUSTRIAL MEDICINE

The Report of the Investigation of the Hazards of Spray Coating which was made by the Pennsylvania Department of Labor and Industry, during 1926 has been received from the printer. This report is one of the most important documents ever published by the Department. The investigation was conducted by the Bureau of Industrial Standards under the specific direction of Dr. Elizabeth B. Bricker, Chief of the Hygiene and Sanitation Section. The Department will be pleased to send copies to any one requesting them.

Safety at Home.—The home is the scene of 19,000 deaths of accidental nature annually, and of hundreds of thousands of serious injuries, all are due to carelessness or ignorance. This is a direct challenge to the women of America. If accidents in industry have been materially decreased, and in many instances almost entirely eliminated, are the women in the homes going to do nothing, or are they going to take up this challenge and demonstrate their ability to fight this accusation of carelessness and ignorance? Are we going to wait until accidents in the homes assume such alarming proportions that our accusers will inspect our homes and demand safe conditions and practices there? There are too many ways in which we can attack the problem: first, by the elimination of hazards in the home, and, second, by assuming the responsibility for the safety of small children in their homes by their parents.

Persons over 55 years of age are in the group suffering mostly from falls. Falls may be classed under three headings: falling down stairs, falling off ladders, and falls due to slipping. Falls on stairs may be caused by poorly constructed stairs, poor lighting, sharp turns, or lack of hand rails. These may not be entirely the responsibility of the housekeeper. But whose fault is it if the carpet or the rubber treads are loose, the stairs wet or greasy, or articles are left on the stairs for some one to trip over? Ladders which are insecure, or poor substitutes for ladders, such as rocking chairs, boxes, or barrels, cause numberless accidents. A short fall of just a few feet can cause a serious fracture, especially to old persons whose bones are brittle. Surely we have all had personal experiences with slipping. Polished floors, especially where small rugs are used, are almost as dangerous as icy pavements.

Asphyxiation and suffocation are responsible for 4,700 deaths. In the light of our modern knowledge of ventilation, these deaths are absolutely inexcusable. If our homes were always properly ventilated, there would be no deaths by asphyxiation, as a current of air quickly eliminates gas saturation with its attendant dangers. As a further protection against this group of accidents, we must make certain that all appliances and connections relative to illumination by gas and the use of gas stoves are in perfect condition. Any unusual odor connected with gas appliances is indicative of danger and should receive immediate attention. Asphyxiation by coal gas and carbon monoxid belong to this group. Well-protected flue holes and clean chimneys, with frequent inspections of all stoves and furnaces, will almost eliminate escaping gases. Carbon monoxid is one of the most deadly poisons. It is produced by the exhaust gases from a running automobile engine. Never, for even a very short time, run the engine of a car in a closed garage.

The next group is the most tragic one, as children under fifteen years of age make up the group suffering from burns and scalds, poisons, fires, and explosions. The National Safety Council says, "Practically all accidents to children are due to carelessness, thoughtlessness, neglect, and disorderly habits on the part of parents or other adults." This is a grave accusation. Again quoting the National Safety Council, "More children under four years of age die from burns and scalds than from any other kinds of injuries." Who places kettles with hot liquids in them too near to the edge of the stove, table, or sink? Who places tubs or boilers of hot water on the floor of a room in which there are small children? Who buys non-safety matches and stores them where a child may reach them? Who hangs curtains and draperies where a breeze may blow them against a gas jet, or hangs clothing to be dried over the stove, or on the oven door? Who stores away old papers or combustible rubbish? Who allows young children to have fireworks? Who puts ashes in wooden boxes or pours kerosene into a stove? Who forgets to put out of the reach of children poisons, drugs, and such things as lye and caustic soda? In answering these questions truthfully, we come to the realization that we, the adults, are unquestionably responsible for these dreadful accidents.

Firearms cause 750 deaths annually. Remember, these figures are confined to accidents in the home. Is it necessary to harbor firearms, especially loaded ones, in the house? The possibility of children playing with them is an excellent reason why firearms should never be loaded until they are to be used.

The last cause on our list is electricity, and it causes 300 deaths each year. Under this heading would come all electric irons, fans, cleaners, etc., as well as electric ranges. The great danger lies in defective and worn appliances and in the ignorance of what constitutes a conductor of electricity. Good general rules are: To discontinue the use of any defective electrical implement and not to touch any electrical appliance with wet hands, as water or dampness of any kind is a conductor of electricity.

When we have eliminated the hazards in the home, we cannot feel certain that accidents will not occur. We must still assume the responsibility for the safety of small children. We must anticipate their actions. They always do the unexpected. Industry is making a concerted effort to reduce accidents. Everywhere workers are being taught to cultivate the habit of thinking in terms of safety and rules of good housekeeping. Every day workers are being discharged because of their careless habits. Even the children in our schools are being taught safety, yet adults in the homes seem to be absolutely unaware of the meaning of the term "safety first." Let us take the accusation of the National Safety Council to heart and make every effort to bring our mothers a thorough knowledge of the causes and prevention of accidents in the home.—*Labor and Industry.*

Ecuador Law Regulating Employment of Women and Children.—A law recently passed in Ecuador provides that proprietors of all kinds of factories and workshops shall furnish safe and sanitary working conditions for their workers. Regulations are prescribed to insure general cleanliness and proper ventilation and to prevent accidents. The law also forbids the employment of women and children under the

age of eighteen years in work where white lead or other poisoning coloring substances are used, in the manufacture and handling of explosives or inflammable materials, and in heavy manual labor. Women workers are to be given four weeks' leave before childbirth and six weeks after childbirth, during which period their employers shall pay five per cent of their salary. Employers are not permitted to dismiss pregnant women without legal reason.

RESOLUTIONS ON ETHICAL PRACTICE OF RADIOLOGY

The following report of the Committee on Radiological Frauds and Improper Practices of the Radiological Society of North America was read at the thirteenth annual meeting of the Society at New Orleans, November 28 to December 2, 1927. Publication has been requested in all state medical journals in order to give as wide publicity as can be obtained. It is also appearing in the June issue of *Radiology*.

Some of the remarks made by counselors from various parts of the country seem to indicate that this specialty is threatened by dangers which are more or less peculiar to radiology. It seems that in different parts of the country fee-splitting, masquerading under various disguises, is becoming rather prevalent. If one were to attempt to find the source of these various tendencies and to classify them, he would give first place to the organizations, corporations, or companies selling stock to physicians and surgeons and encouraging these men to refer their cases to x-ray laboratories operated and owned by such corporations or companies, in the hope of receiving dividends upon their stock; and, of course, the more cases referred, the larger the dividends. The plan constitutes, stripped of its business terminology, nothing more nor less than an offer of a financial inducement to physicians to refer their cases to certain x-ray laboratories. Then we have another type of organization which is rather innocent on its face but which offers discounts to members of the organization. That is to say, if the member refers his cases to the laboratory in which he is financially interested, he may have charges for x-ray services made to himself, and then he may take a discount of 20 or 25 per cent or more and collect the full fee from the patient. As a matter of fact, there is no restriction whatever to the fees this man may charge; he may obtain his x-ray services on a small-fee basis, and then take his discount and charge his patient a large fee for the same service. This creates a rather dangerous situation. Some of these laboratories which operate as stock companies are operating without a roentgenologist in charge, the members themselves claiming they are quite competent to make their own interpretations, their own fluoroscopic observations, and to prescribe treatment. Some of them employ a physician as a figurehead, who is supposed to pass upon cases coming to the clinic, but he actually does not. The diagnosis is made by the technician and the physician's name is signed to the report.

Now, in order to bring this matter before the Society and try to get something concrete done we have prepared a set of resolutions upon which we ask your approval. The question will arise, of course, in all of your minds, as to what good this may accomplish. It seems to your committee that, if it does nothing more, it will place us on record with a certain definition of commercial x-ray laboratories and unethical x-ray laboratories; it will define clearly what we regard as ethical practice and as unethical practice. With that backing, we can go before our own local medical societies to obtain their support in cleaning up this situation in various localities throughout the United States. Here are the resolutions which we have to present:

WHEREAS, Certain practices are becoming prevalent in various parts of the United States, which threaten the welfare of radiology, affecting the practice of this branch of medical science in a peculiar, deleterious, and harmful manner; and

WHEREAS, It is an important function of any medical organization to protect its specialty from the harmful effects of improper, unethical, or dishonest practices,

Be it resolved, By the Radiological Society of North America, in executive session at its thirteenth annual meeting, that: (1) Radiological diagnosis is a consulting specialty of medicine, the chief function of which is to aid practitioners of other specialties and of general medicine in the diagnosis and treatment of disease; (2) that it is improper and unethical for any radiologist or any organization practicing radiology to offer discounts or commissions, or other financial inducements, to attract patients either directly or through reference by other physicians; (3) that it is unethical for any radiologist or organization practicing radiology to make charges to referring physicians for services rendered, but that all such charges must be made against the patient for whom such services are rendered; (4) that a commercial x-ray laboratory is defined as one which advertises to make radiographic or fluoroscopic examinations for physicians and surgeons for the avowed or apparent primary purpose of financial gain; (5) that it is improper and unethical for any radiologist to become affiliated with a commercial x-ray laboratory; (6) that a stock company or corporation with physicians and surgeons as stockholders, offering dividends as an inducement to refer cases to a laboratory owned and operated by such company or corporation, is unethical, and that such dividends be regarded in the same light as commissions or discounts. A group of physicians may properly own and operate an x-ray department or laboratory, providing the earnings therefrom are employed for the advancement of the science of radiology or other branches of medicine or the maintenance and improvement of service to patients, but not as an inducement to stockholders to refer cases in the hope of receiving greater dividends.

Resolved, (7) That an x-ray laboratory is to be considered unethical if therefrom emanate diagnostic reports based upon the radiologic observations of technicians who do not possess a medical degree or license to practice medicine.

The mere signature of a physician to such reports is to be regarded as an evasion of this rule unless such signatory has actually made the observations and drawn the conclusions upon which such reports are based.

Be it further resolved, (1) That no radiologist engaging in unethical practice according to the above definition shall be eligible to membership in this Society, and that no technician affiliated with an unethical or commercial laboratory shall be eligible to registration; (2) that a copy of these resolutions be forwarded to each state medical society with a request that they be published in the official journal; (3) that a committee be appointed to obtain the official approval of these resolutions by the American College of Radiology, the American College of Surgeons, and the American College of Physicians.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

Officers' Department

A. C. MORGAN, M.D., Sc.D., F.A.C.P.
President
2018 Chestnut Street
Philadelphia, Pa.

AN EDUCATIONAL CONTRAST

"That Which Is Morally Wrong Can Never be Politically Right"

We are pleased to report that from all sections of the State cumulative evidence is coming of favorable response by laymen, women's auxiliaries, and physicians to the clarion call sounded by the Committee on Public Health Legislation.

The primaries told their stories in no uncertain manner, and the lesson put over will not be lost. A breathing spell during the warm season will enable every one to regain strength and energy for the November election, at which time we are sure that the compelling force of an awakened public opinion will make itself felt in such way as to drive home the lesson that the health and lives of our citizens shall not be used as tools in the hands of politicians to further and foster the claims of men and women who openly, defiantly, and blatantly violate the laws of this Commonwealth and who discard the lessons that have been learned in the past as to the value of vaccination, preventive medicine, hygiene, and sanitation.

Loud noise does not signify sincerity nor virtue. The specious claims of the cults, their daring increase in open advertising, their boasts as to political protection and pull, do not carry conviction as to their claims being true, and it will soon be that they will stand in their real light before the bar of public opinion.

County society and councilor district meetings have been well attended, and there are signs of individual quickening as to personal duty. The presentation of public-health matters before civic bodies and many other avenues for dissemination of knowledge and education of the public serves to increase the moral force of our campaign for righteousness that will reach high tide at the November elections.

Do not let up in your activity in securing signatures to the petitions. Rally the women's auxiliaries, nurses' associations, civic clubs, service bodies, employees, etc.—all who can be enlisted in the good work. Secure new petitions from your county secretary, Secretary Donaldson, or Chairman Correll. Be sure to identify the signed petitions you send in.

COMMITTEE REPORTS FOR THE ALLENTOWN SESSION

It is not too early to remind the chairmen of commissions and committees of the necessity of accumulating data for their annual reports, which should be in the hands of Secretary Donaldson before August first. The September JOURNAL should contain all the important reports, that they may be read and digested by the members of the House of Delegates in particular, but also as well by each reader of the JOURNAL. We have had a large amount of correspondence with many of these groups, and are pleased to state that there has been a hearty response to the calls for meetings by most of them, for which we extend grateful appreciation.

Preparation for vacation time is being made by many, and the outings should include attendance at the Allentown session, October 1st to 4th. After many years the State Society will meet in Lehigh County, and pleasing contrasts can be made in noting the improvement made by this hustling city that has just celebrated its attainment of 100,000 population. Hotel accommodations are still ample, but reservations should be made at this time to give an easy mind.

The Committee on Scientific Business have done a good piece of work, and their efforts will reward you in the enjoyment of the splendid program prepared by that earnest group of workers.

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade Building
Pittsburgh, Pa.

MEETING OF BOARD OF TRUSTEES

The regular meeting of the Board of Trustees was held at the headquarters of the Society, 230 State Street, Harrisburg, on Tuesday, May 8, 1928. The meeting was called to order by Trustee Harry W. Mitchell, who was chosen to preside in the absence in Europe of Chairman Sharpless. The following were present: Trustees Mitchell, Hammond, Brenholtz, Frontz, Litchfield, Hartman, Wyant, Bishop, Crow, President Morgan, President-Elect Simonton, Ex-President Albertson, and Secretary Donaldson.

The Committee on Publication recommended in its report that the necessary steps be taken to revive the former name of the JOURNAL—*The Pennsylvania Medical Journal,* and that Dr. Adolph Koenig, its founder and former editor, be notified of the change.

Chairman Correll of the Committee on Public Health Legislation discussed the activities of his committee up to that time, following which a motion was made and adopted "that we approve the work to date of Chairman Correll and his committee in their efforts to maintain the existing high licensing standard of the Healing Art in Pennsylvania, and assure him of our continued confidence in the committee's efforts toward success in this difficult but important public duty."

CONTRIBUTIONS

The following contributions to the Medical Benevolence Fund have recently been received, and are hereby gratefully acknowledged:

Woman's Auxiliary to Lehigh County Medical Society	$100.00	
Woman's Auxiliary to York County Medical Society	50.00	
		$150.00

RESIGNS AFTER LONG SERVICE

We have recently been notified of the resignation of Dr. Henry Clay McKinley as secretary of the Somerset County Medical Society, in which capacity he has served faithfully for nearly thirty-eight years. Dr. McKinley is now eighty-eight years of age, and it is only on account of the infirmities due to his advanced years that he has been obliged to relinquish his duties in his county medical society. Dr. McKinley has been a constant attendant upon the annual meetings of the State Society and the American Medical Association. Dr. Bradley H. Hoke of Meyersdale has been elected secretary to succeed Dr. McKinley.

EDUCATIONAL PETITIONS

We take pleasure in publishing the following letter from G. Walter Zulauf, M.D., Superintendent of the Allegheny General Hospital, Pittsburgh, Pa.:

MY DEAR DOCTOR DONALDSON:

It is a pleasure to send you herewith twenty additional petitions of fourteen names each. According to our records this makes a total of eighty petitions, containing approximately 1,120 names secured by the hospital. We shall probably in the course of the next few weeks send you some more completed petitions as there are several still in circulation.

Yours very truly,
G. WALTER ZULAUF, M.D.,
Superintendent.

As has been pointed out in these columns heretofore, the success that any hospital will have in the campaign of educating the public regarding the necessity for maintaining Pennsylvania's present high standards for licensing practitioners of any form of the healing art, depends very largely upon the efforts of the given hospital's superintendent.

We are not attempting to fix a quota of attached signatures to the petitions furnished to the various hospitals in Pennsylvania, but we suggest, as a minimum, five for each bed in the institution. It may be that the work of obtaining signatures in the hospitals of Allegheny County has been facilitated by the fact that the Public Health Legislation Committee of the Allegheny County Medical Society addressed an appropriate letter to each member of the Board of Trustees of each hospital in the county. In any event, having put our shoulders to the wheel, we must not, whether we be hospital superintendent, County Medical Society member, or Woman's Auxiliary member, relax in our personal efforts until Allegheny County has furnished her quota of 50,000 signatures.—*Pittsburgh Medical Bulletin,* May 12, 1928.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to May 15:

ADAMS: *New Member*—Charles L. Myers, York Springs.

ALLEGHENY: *New Members*—James W. Speelman, 500 Brookline Blvd., Brookline; Max Harris, 604 Chartiers Ave., McKees Rocks; Carl H. Robinsteen, 520 S. Aiken Ave., Harry S. Nicholson, 1612 Shady Ave., E. R. Blough, 1823 Brownsville Road, H. S. Toukatlian, 922 Chartiers Ave., J. M. Strang, West Penn Hospital, Harold A. R. Shanor, 121 University

Place, Pittsburgh. *Deaths*—Lee E. McCartney, Coraopolis (Univ. of Pgh. '24), April 17, aged 32; Thomas R. Kendrick, Pittsburgh (Univ. of Pgh. '21), April 17, aged 35; Lawrence E. Rectenwald, Pittsburgh, recently; Robert M. Sands, Pittsburgh (Univ. of Md. School of Med. '83), May 10, aged 72.

BERKS: *Death*—Charles W. Bachman, Reading (Jeff. Med. Coll. '81), April 11, aged 72.

CAMBRIA: *Death*—Frank U. Ferguson, Gallitzin (Medico-Chi. Coll., Phila. '90), April 23, aged 64.

CUMBERLAND: *New Member*—Benjamin F. Hunt, Mechanicsburg.

ELK: *Transfer*—William A. W. Switzer, Ridgway, from Indiana County Society.

FAYETTE: *New Members*—Thomas R. Francis, Connellsville; George Hudock, Fayette T. & T. Bldg., Uniontown. *Transfer*—Stuart Scott, Connellsville, from Cambria County Society.

LACKAWANNA: *New Member*—Leonard M. Freda, 536 E. Drinker St., Dunmore.

LANCASTER: *Death*—Byron J. Reemsnyder, Ephrata (Univ. of Pa. '74), May 11, aged 74.

LUZERNE: *New Member*—Joseph C. Aszuk, 107 Hillside St., Wilkes-Barre. *Removal*—Michael Yankowicz from McAdoo to 134 Dana St., Wilkes-Barre.

NORTHUMBERLAND: *Death*—William T. Graham, Sunbury (Jeff. Med. Coll. '89), May 2, aged 66.

PHILADELPHIA: *New Members*—Jacob Wallen, 410 E. Rockland St., Henry A. Stees, 1835 S. 23d St., Clarence Rostow, 5123 Spruce St., Herbert L. Northrop, Medical Arts Bldg., Jean Gowing, 602 Leverington St., Wilfred E. Fry, 1819 Chestnut St., Frank M. Condron, 717 S. 55th St., James D. Schofield, 448 Roxborough Ave., Zenon F. Nowicki, 1820 Diamond St., Henry Z. Goldstein, 1717 Pine St., Philadelphia. *Reinstated Member*—John C. Deal, 3911 Locust St., Philadelphia. *Transfer*—Edwin S. Gault, 5531 Florence Ave., Philadelphia, from Lehigh County Medical Society; Hugh Hayford, 4149 N. Broad St., from Lancaster County Society; Harry B. Fuller, Lansdowne, from Montgomery County Society. *Deaths*—Theodore M. Johnson (Jeff. Med. Coll. '19), April 17, aged 34; William Reisert (Univ. of Pa. '89), April 9, aged 66. *Resignation*—Alfred Heineberg, Elizabeth D. Wilson, Philadelphia.

POTTER: *New Member*—Robert K. McConeghy, Coudersport.

SCHUYLKILL: *Death*—John C. Gallagher, Shenandoah (Medico-Chi. Coll., Phila., '08), February 29, aged 47.

WASHINGTON: *Removal*—Charles T. Graves from Donora to 700 Lincoln St., Monongahela; James Hufford from Washington to Elrama.

YORK: *New Members*—Harold H. Holland, 42 E. Broadway, Red Lion; Paul D. Shaub, Shrewsbury; Maurice B. Spector, 126 Hallam St., Wrightsville.

VENANGO: *Removal*—John M. Camp from Oil City to Youngstown, Ohio.

CORRECTION.—In the May issue, the death of Dr. M. Jane Sands, of Philadelphia, was incorrectly reported. Dr. Sands is alive and well.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since April 19th. Figures in first column indicate county society numbers; second column, State Society numbers:

Apr. 19	Chester	70	7324	$5.00
	Bucks	64	7325	5.00
20	Lackawanna	201-206, 208	7326-7332	35.00
	Venango	49	7333	5.00
	Indiana	55	7334	5.00
21	York	131-133	7335-7337	15.00
23	Chester	71	7338	5.00
	Delaware	110	7339	5.00
	Columbia	32-33	7340-7341	10.00
24	Jefferson	46-47	7342-7343	10.00
25	Chester	72	7344	5.00
Apr. 26	Jefferson	48	7345	$5.00
27	Venango	50	7346	5.00
30	Allegheny	1228-1253	7347-7372	130.00
May 2	Jefferson	49	7373	5.00
	Philadelphia	1919-1967	7374-7422	245.00
7	Northampton	126-127	7423-7424	10.00
8	Adams	27	7425	5.00
	Greene	27	7426	5.00
	Fayette	97-114	7427-7444	90.00
9	Butler	54	7445	5.00
10	Potter	13	7446	5.00
	Northampton	128	7447	5.00
11	Luzerne	300-301	7448-7449	10.00
	Elk	23	7450	5.00
	Cumberland	37	7451	5.00
14	Tioga	29	7452	5.00

COMMITTEE ON PUBLIC HEALTH LEGISLATION

PAUL R. CORRELL, M.D., *Chairman*
Easton, Pa.

A SPLENDID EFFORT

The Committee on Public Health Legislation of the State Society desires to pay tribute to Dr. A. M. O'Brien of Sharon, who has this day forwarded one petition to the Committee having on it 304 signatures.

This appears to be a worthy effort, and we are asking that the readers of our JOURNAL emulate Dr. O'Brien in his very splendid demonstration of what a little effort will do.

ADDITIONAL EDUCATIONAL PETITIONS RETURNED

In going to press on May 25th, we beg to report a total of 20,000 signers to our educational petitions. This is a gain of over 10,000 in the thirty days just passed.

However, we have very definite knowledge that many of the doctors of the various counties, as well as the hospitals, are holding back their signed petitions, accumulating them by thousands so as to make a proper and adequate showing at the end. This is not satisfactory to the State organization. We desire all petitions to be forwarded from time to time so that a proper correlation can be made of the counties as well as a careful study made of the signers attached thereto. It is desirable, therefore, that these petitions should be sent in as soon as they are signed so that you may not embarrass the general outlined plan of the Committee on Public Health Legislation in its endeavor to utilize them to their fullest purpose.

The public has been most favorable and receptive to the idea. There is no limit to the number of signers we can get if we will continue the effort.

Kindly let us have from you all the petitions you now have and are holding back, so that we

may have the benefit of your work at this moment.

The list to date is as follows:

County	No. of Signers	County	No. of Signers
Allegheny	11,581	Lackawanna	366
Armstrong	28	Lancaster	74
Berks	300	Lawrence	94
Blair	70	Lebanon	37
Bradford	103	Lehigh	28
Bucks	140	Luzerne	116
Butler	56	Lycoming	578
Cambria	72	McKean	14
Carbon	61	Mercer	594
Center	84	Mifflin	4
Chester	157	Monroe	308
Clarion	68	Montgomery	704
Clearfield	119	Northampton	1,039
Columbia	94	Northumberland	404
Cumberland	81	Philadelphia	328
Dauphin	1,450	Schuylkill	156
Delaware	70	Snyder	14
Elk	74	Tioga	98
Erie	13	Union	8
Fayette	216	Warren	154
Huntingdon	34	Washington	263
Indiana	101	Wayne	15
Jefferson	28	Westmoreland	506
		Total	21,248

No returns have been received from the following counties: Adams, Beaver, Bedford, Cameron, Clinton, Crawford, Forest, Franklin, Fulton, Greene, Juniata, Montour, Perry, Pike, Potter, Somerset, Sullivan, Susquehanna, Venango, Wyoming, and York.

COMMITTEE ON SCIENTIFIC WORK

O. H. PERRY PEPPER, M.D., *Chairman*
Philadelphia, Pa.

THE PROGRAM OF THE SECTION ON PEDIATRICS

The Pediatric Section will have an unusually interesting program this year. It will include an hour on "Endocrine Disturbances in Childhood," by Fritz B. Talbot, of Boston, an hour on "Our Infant-Feeding Problems," by Roger Dennett, of New York, and symposiums upon the following subjects: "Poor Appetite in Children," "Bronchiectasis," "Obstetrical Paralysis," "The Nervous System," "The Lymphatic System," "Heart Disease," and one on "Measles," including the use of convalescent serum by a man who has had great experience in its use. There will be eight 5-minute case reports, all of which are rare and interesting.

Certainly, this is a well-balanced program of practical importance to both the general practitioner and the pediatrician as well. Especially should Dr. Dennett's paper on infant-feeding problems and Dr. Talbot's paper on endocrine disturbances appeal to all men treating children. The attendance at the Pediatric Section has been steadily increasing, and this section has well demonstrated its justification for existence.

Do not forget to register in the Pediatric Section, as that will put you in touch more actively with the work next year.

County Society Reports

ALLEGHENY—MAY

J. D. Iams, M.D.: Artificial Feeding of the Newborn.—A marked loss of weight in the newborn is inadvisable, unnecessary, and should be avoided. It can be controlled by simple formulas given as a complement to breast feedings. Normal newborn infants can be entirely fed artificially with success by the same simple method. If the bowel movement is too frequent, either calcium-caseinate solution or protein milk gives excellent control; while in obstinate vomiting, provided retention is ruled out, heavy-gruel feedings are corrective. The artificial food of choice for premature or congenitally weak infants is protein milk. For an infant with small capacity or high caloric needs, lactic-acid milk is the best food. Unsweetened or condensed milk may be used, and the so-called reconstructed milk may also be given. It is better adapted for the physician who does not have sufficient knowledge to feed properly by other methods.

Paul Titus, M.D.: The High Cost of Being Born in Pittsburgh.—A response is made to an article appearing in the October (1927) issue of the *Atlantic Monthly* under the title "The Cost of Illness." It appears the article intimated that the public has no accounting of the stupendous sums expended in the maintenance of hospitals; that the nurses and doctors overcharge; and openly stated that "the best medical service is available only for the very rich and the very poor," and that "the great middle class is not rich enough to buy the best service and not poor enough to accept charity." Mass medical production to make large incomes like business corporations is deplored.

An obstetrician is not essential in every case, but a certain amount of medical work is essential to the safe conduct of every maternity case. Cheap obstetrics is usually synonymous with poor obstetrics. A plan originating in the Women's Hospital in Baltimore is proposed, with some modifications. Certain quarters are set aside for which fixed charges are made. This fee covers all extras, including the delivery room, anesthesia, laboratory fees, special drugs, etc. For example, a bed in a four-bed private room will cost the patient about $75 for her stay of two weeks, including her time of confinement. The attending obstetrician, whether general practitioner or specialist, must coöperate by agreeing to charge this patient, regardless of the service required of him, not more than $75, or less if he wishes. Thus the total cost of the confinement, prenatal care, hospital fee, and physician's charge will not exceed $150. In a two-bed private room, the hospital's charge is $100, and the physician's fee is limited to $100. In certain one-bed private rooms, the hospital's fee is $125, and the physician's fee likewise is limited to $125. To be eligible for such care, one's income should not be below $3,500, although other financial circumstances or emergencies may alter this. Such an arrange-

ment is especially helpful when a budget must be carefully planned for the expenditure of a limited income. An analysis of the facts will reveal that the hospital charges for the care of these patients (except in private rooms), including all extras, are less than the per capita cost of patients to the hospital. The absorption of this difference by the hospital is necessary in order that it may refute the statement that only the very rich and the very poor are afforded the best medical service.

J. O. Wallace, M.D.: The Lumbosacral Region.—In a study of 250 cases of fractured spines, 67 per cent involved the eleventh and twelfth dorsal and lumbar regions. This is explained by the fact that this region has very extensive motion; it bears the most weight, and presents a freely movable position passing into a fixed region above and the sacrum below. About 34 per cent of the cases involved the fifth lumbar vertebra. The lumbosacral junction is in the direct weight-bearing line, carries all the superimposed weight of the body, and is stabilized by muscles in bone, the elastic ligaments, the intervertebral disks, the shape of the top of the sacrum, and the spinous processes and laminæ. The joint is made unstable by failure of closure of the neural arch of the first sacral and fifth lumbar vertebræ, lumbarization of the first sacral body through failure of fusion, large spinous processes, sacralization of the fifth lumbar vertebra and small spinous processes of the fifth lumbar and first sacral vertebræ. Attention is called to cases presenting abnormal lumbar lordosis of a peculiar and distinctive type, to spina bifida occulta, and to sacralization of the transverse processes of the fifth lumbar vertebra.

The Allegheny County Medical Society annually sponsors a case-report contest, and offers an award of $25 to the winner. Following is an abstract of the prize report in 1928:

E. A. Conti, M.D.: Aplastic Lymphogenous Anemia Due to Radium.—The chief complaints were progressive weakness; numbness of legs, arms, and face; and fainting attacks. For fifteen years prior to August, 1926, the patient was employed as a radium worker. With the exception of the removal of a squamous-cell epithelioma from the left index finger in 1924, the past history was negative.

Physical examination revealed a young American adult about 35 years of age in a markedly weakened condition, manifested by the fatigue which developed during the history taking. The body skin was pale, assuming an olive tint. There was a slight discrete enlargement of the anterior cervical glands, together with a few moist râles at the base of the left lung. The blood pressure was low, and faint, soft, nontransmissible mitral and aortic murmurs completed the pathologic physical findings. The urinalyses were negative. The blood picture showed 900,000 red blood cells, 4,700 white blood cells, and 30 per cent hemoglobin. The differential count was 24 per cent polymorphonuclears, 64 per cent small lymphocytes, 10 per cent large lymphocytes, 2 per cent transitionals, with marked anisocytosis and poikilocytosis. On throat culture, the streptococcus viridans and staphylococcus albus were found. The feces examination was negative.

Between August 28th and November 17th the patient was given five transfusions of whole blood, varying in amount between 500 and 700 c.c., and one of citrated blood of 250 c.c. Following each of these there was improvement clinically, but on only one occasion was there evidence of effectual stimulus to the hemopoietic organs. The effect was transient, and due only to the additional blood volume. The peak of his improvement was reached on September 21st, when the red blood count showed 3,712,000 cells and the hemoglobin at 70 per cent. At this time the patient was able to take several automobile rides with evident relish. Eleven injections of iron and arsenic were given—the first intramuscularly, producing an abscess which grew more extensive despite incision and adequate drainage; the others intravenously, with no apparent benefit. Death finally supervened, due to lobar pneumonia.

The differential blood count showed a leukopenia throughout, with a marked relative lymphocytosis, the white blood cells and lymphocyte percentage varying respectively between 4,500 and 8,200, with the average rate closer to the lower figure, and 51 per cent and 99 per cent, small mononuclears predominating. The polymorphonuclears were at no time over 33 per cent, and were only 1 per cent on the day of death. The white blood cells rose to 11,000 with the onset of the pneumonia. A typical blood smear showed the following: no nucleated reds, moderate anisocytosis and poikilocytosis, few megaloblasts showing polychromatophilia and punctate basophilia, no evidence of polychromatophilia or granular degeneration in the mature red blood cells, loss of hemoglobin apparent in the clear transparent areas of the cells, and the presence of schistocytosis.

A complete autopsy was not obtained, but sections were taken from the lungs, lymph nodes, and femur. The pathologic findings showed the outstanding change to be an aplasia of the bone marrow. On gross examination of the bone marrow of the femurs, it proved to be of a light lemon-yellow color, with an occasional pin-point area of red. It was rather firm in consistency, and small bony spicules were distributed through it. Microscopic examination of the bone marrow showed an entire lack of regenerative qualities.

This case is interesting because of the following points: (1) The etiologic agent. (2) The type of anemia produced by radium. (3) The inefficacy of liver therapy. The patient had been on a liver diet for about a year previous to admission, with apparently no improvement. On admission, he absolutely refused to eat any more liver. (4) The failure of response of the hemopoietic apparatus to stimulation by accepted therapeutic measures.

L. G. Beinhauer, M.D., *Reporter.*

BERKS—MAY

At the meeting on May 8th, at Medical Hall, Dr. Edward Bauer, professor of pediatrics at the Jefferson Medical College, Philadelphia, discussed "Concentrated Low-Buffer Feeding, and Its Place in Infant Feeding."

Dr. Bauer: The old-fashioned method of prescribing feeding formulas for infants by the elimination process should be discontinued. It is not necessary to try a half-dozen or more formulas until a suitable one is found; the cause of the disturbance is usually evident. Most children will thrive on a diet containing four per cent of milk. The sugar is a matter of choice, but lactose, which is naturally found in milk, is preferable. The more complex formulas and methods are used only in definitely applicable cases.

Lactic-acid milk is no exception to this rule. Marriott is recommending it very highly, though there is no biologic or physiologic foundation for it. His own two children received it routinely, and developed marked rachitic symptoms. In definite cases it is very beneficial. It has a low buffer value—which means the relative ability of substances to neutralize acids or alkalies without changing the quality of the food used.

Human milk is more acid than cow's milk. Therefore, acid is added to the latter so that a stronger solution will pass through the stomach with less difficulty than when it is diluted merely with water. Acid milk can be used only temporarily. If it is to be used routinely or permanently, its handicaps must be realized.

An important indication for its use is athrepsia—a condition caused by improper feeding and malnutrition in which the child is underweight, has a dry parchment-colored skin, reduced blood volume and blood flow, sunken cheeks, deep-set eyes, and a subnormal temperature. This condition is usually due to carbohydrate or fat indigestion. Another important indication is anhydremia occurring after rapid water loss through the gastro-intestinal tract, due to a toxic condition of any origin. In these cases the temperature is elevated. In both these disorders, concentrated feedings of a high caloric value are given in order to provide the infants with the elements necessary for life and ultimate growth in quantities otherwise impossible. Occasionally it is given in cases of vomiting, though the vomiting must first be stopped. The vomiting of overfeeding may be cured by lactic-acid milk in small quantities. It is of especial value in summer diarrhea.

The use of lactic-acid milk is simple; the difficulty lies in its preparation. After beginning, whole lactic-acid milk may soon be given, with a suitable carbohydrate. The most frequently used carbohydrate is corn syrup, a polysaccharid absorbed by several layers at various places in the tract. For this reason it does not collect and ferment. Less glycogen is stored in the liver than when lactose is used. Karo is the sugar of choice. One to two ounces is all that is necessary to each quart of whole lactic-acid milk, but up to ten per cent may be used without distressing symptoms. However, a high percentage is not necessary. Karo is not a desirable sugar to use with sweet milk, as it cannot be given in large quantities without the appearance of sugar in the urine and blood. This does not occur when it is used with lactic acid. Fermentation is likely to occur from overuse of polysaccharids. Lactic-acid milk is a concentrated food containing all the necessary elements except vitamins.

A child should be prepared for a change of food. This does not mean that a laxative should be given; usually none is better. A colonic irrigation is good, as is tea by mouth. Frequently sodium bicarbonate is valuable in case of vomiting. Lactic-acid corn-syrup milk may be given until the child begins to gain. Rapid gain in weight should not be striven for, but should rather cause apprehension. Frequently a child will lose weight in the beginning until the excess subcutaneous water content has disappeared. After that there is a gradual gain. For a distinctly dehydrated child, sometimes normal saline or Ringer's solution intraperitoneally is good, and children can be brought almost from the brink of the grave. After a good start, the change to the regular diet may be made. This must be done gradually by daily diminution of the number of lactic-acid milk feedings and the substitution of the routine formula. Pasteurization and tuberculin-testing of milk are important adjuncts in infant feeding.

Dr. G. W. Overholser: We have found the temporary use of lactic-acid milk very satisfactory. In the summer diarrheas of infants it is of special benefit, but for routine or continued use it is undesirable. The value of tuberculin-tested milk cannot be overestimated.

Dr. D. S. Grim: Is lactic-acid milk of any value in eczematous conditions?

Dr. Bauer, in closing: Lactic-acid milk is of value in some cases of moist eczema and in those produced by fat indigestion. Here the skimmed lactic-acid milk is indicated unless the child has an idiosyncrasy for milk. In most eczematous cases, crude coal tar should be heavily painted on the affected areas thickly enough to crack when dry. This forms a protective coating, and dispenses with the mask. In dry eczema, the carbohydrate is usually at fault, and the lactic-acid milk is of no value. A low-carbohydrate milk, with thick cereals, is preferable. These cereals must be cooked in a double boiler for at least four hours in order to be most easily digested. If there is an absolute idiosyncrasy for milk, cooked cereal in milk is contraindicated, and a soup base, especially vegetable soup, is substituted for the milk. Frequently in these cases there is also an idiosyncrasy for eggs, which must be guarded against.

At the close of the meeting, Dr. Clara Shetter-Keiser was presented with a leather traveling bag as a token of esteem for her fifteen years of faithful service as reporter for the Berks County Medical Society.

A special meeting was held in the Y. M. C. A. building, April 20th, to which the boards of directors and women's auxiliaries of the hospitals and various health organizations in the county were invited. Addresses were made by Dr. A. C. Morgan, president of the State Medical Society, and Dr. Paul Correll, chairman of the State Society Committee on Public Health Legislation. The purpose of the meeting was to arouse the people to the danger which Dr. Morgan called the "Menace of the Cults."

PEARL E. HACKMAN, M.D., *Reporter.*

BUTLER—MAY

At the meeting held May 8th, with President R. W. Walker in the chair, Dr. Frank A. Evans, of Pittsburgh, spoke on coördinating the laboratory with the other departments of the hospital. The laboratory helps (1) to orientate the clinician anatomically by autopsies and examinations of surgical specimens, and (2) to give a physiologic evaluation of disease which aids in diagnosis, prognosis, and control of treatment. The laboratory should not be expected to make the diagnosis; usually it can only aid the clinician.

A member presented a case of generalized adenopathy in a married woman 28 years old. Five weeks before this presentation, enlargement of the left cervical lymphatic glands had occurred, and since that time she had progressively developed masses in the right side of the neck, left axilla, right axilla, and left groin. These gave little discomfort, though masses palpable through the rectum were painful. There had been no fever, loss of weight, nor hemorrhages.

The patient had been married five years, and had one healthy child 22 months old. Physical examination revealed nothing additional. The teeth and tonsils were normal, the spleen and liver not palpable, there were no signs of tuberculosis, the Wassermann was negative, and the blood count as follows: hemoglobin 70 per cent, red cells 4,380,000, white cells 12,900, differential —polymorphonuclear neutrophils 77 per cent, small lymphocytes 15 per cent, large lymphocytes 2 per cent, eosinophils 1 per cent, and myelocytes 5 per cent.

A tentative diagnosis of Hodgkin's disease was made. A microscopic section of an excised gland would help in confirming the diagnosis.

MAX S. NAST, M.D., *Secretary.*

DELAWARE—APRIL

At the regular monthly meeting, held at the Chester Hospital, resolutions on the death of Dr. A. J. Simp-

son were adopted. Dr. G. H. Cross made a report on the meeting to consider legislative problems held at Harrisburg. Several members of the New Castle County Society of Delaware were our guests at this meeting.

Dr. B. A. Thomas, Philadelphia: The Significance of Prostatism to the General Practitioner.—This topic may be divided into the following phases: (1) consideration of the pathology (this was illustrated by numerous lantern slides), (2) diagnosis and differential diagnosis, and (3) prognosis and treatment from the standpoint of the general practitioner. Prostatism is a condition which affects men past middle life, causing frequency or dysuria due to irritation at the neck of the bladder, usually the prostate. Two types of this condition are recognized—the irritative and the obstructive. In the first there is little retention, the bladder functions frequently, and undergoes a concentric hypertrophy. In the second, the obstruction is never rapid, retention is increased, and the bladder undergoes an eccentric hypertrophy and later dilatation, and the overdistended bladder will continue to retain urine and give rise to infections and cystitis, so that the patient may die within eight hours from uremia or ascending infection.

Prostatism means a hypertrophy of the lateral or median lobes of the prostate, and does not include stones, tumors, or cysts of the prostate, all of which give rise to symptoms that cannot be distinguished from prostatism. The handling of this condition presupposes a thorough knowledge of the pathology at the neck of the bladder, the state of the kidneys and heart, the presence of infection, stones, or cancer, and whether the symptoms are severe enough to require operation or whether palliative treatment will suffice. Ten per cent of the patients are not included in the classic group of simple hypertrophy, but require cystoscopic examination to determine whether there is involvement of the median lobe or of vestigial or trigonal glands, papilloma, senile changes of the trigone, or malignancy which may require a cystoscopic biopsy for diagnosis.

If the retention is not great or if other organic diseases disqualify the patient as an operative risk, palliative treatment may be tried. This is only routine catheterization aseptically carried out. The quantity of the retained urine governs the catheterization. If four ounces are retained, once a day is sufficient. If the amount is greater, more frequent catheterization is required. If the urine is purulent, the bladder should be irrigated with an antiseptic solution once a day. When the retention is great and systemic changes have occurred, operative procedures are indicated. Radium may be helpful, but it is not now considered successful. The prostatic should always be referred to a specialist, because the danger of palliative treatment is five times greater than that from operation.

Operative treatment prolongs life and promotes the happiness of the patient. Early treatment reduces the mortality, which then ranges from three to five per cent. Preoperative study should include:

1. Renal function—(a) stability of kidney function, (b) the presence of uremia and blood-urea determinations, (c) the phenolsulphonephthalein index.
2. The cardiovascular system—(a) the presence of myocarditis, (b) broken compensation, (c) arteriosclerosis, (d) aneurysms.
3. Blood-pressure determinations.
4. Blood examinations—(a) the Wassermann test, (b) the coagulation time, (c) sugar determinations, (d) detection of anemia.
5. The lungs—(a) the presence of emphysema, (b) hypostatic pneumonia, (c) carcinoma of the lungs, (d) old tuberculous processes.
6. The nervous system—(a) the presence of tabes dorsalis, (b) uncontrollable fear of death.

The presence of any of these conditions disqualifies the patient for operative procedures. The character of the lesion decides the mode of attack—whether the suprapubic or perineal route or the punch method is adopted. Suprapubic operations comprise 80 per cent, and perineal operations 20 per cent. Drainage of the bladder is the greatest factor in reducing the mortality. The only question is whether it should be drained by catheter or by cystotomy. Contraindications to catheterization are severe cystitis, bladder complications, epididymitis, obstruction in the urethra, and a small or sensitive urethra. For operation, caudal and transsacral anesthesia are safe.

Discussion by Dr. G. L. Armitage brought out the question whether an overdistended bladder should be emptied completely at once. To this Dr. Thomas replied that if the retention is acute and the bladder at the level of the umbilicus, half may be emptied at first, then half of the remainder six hours later, and the complete residual six hours after that. All of it should not be removed at once. In chronic cases it is a good thing to irrigate the bladder. Bladder diverticulæ are usually of the acquired and not of the congenital type.

Albin R. Rozploch, M.D., *Reporter.*

ERIE—MAY

Dr. Harry Trick, of Buffalo, N. Y., president-elect of the New York State Medical Society, and associate professor of surgery, University of Buffalo Medical School, gave an informal talk on "Infections of the Hand."

These conditions should not be classed as minor surgery. In fact the word "minor" has no place in surgery. Dr. Trick stated that knowledge regarding the hand and its infections has been gained by bitter experience rather than from textbooks. The large amount of industrial surgery now practiced makes this subject of more than usual importance. Not all swollen hands should be incised, as much harm may result. He classified the conditions very much as outlined by Kanavel in his book, and showed drawings taken from his illustrations. An important fact emphasized was that a felon is not a subperiosteal infection, as it was formerly considered, but an infection of the fat columns which exist in the balls of the fingers. In these infections the pus should be reached by lateral incisions, making a so-called crocodile flap. The bone necrosis is secondary to the pressure, and the spread is limited by the tendons attached to the distal phalanx. Illustrations showing the proper method of dealing with paronychia were shown. Also a discussion was given on carbuncles, Dr. Trick advising the crucial incision and then cutting horizontally through the flaps to secure drainage. He discouraged dissecting out the mass. Caution against multiple incisions in lymphangitis of the hand was urged. This condition was differentiated from tenosynovitis by the fact that in synovitis the fingers are immobilized by the inflammation. Long immersions were favored for these conditions, especially after drainage is established. Abscesses in the palmar fascia were discussed, and a warning against placing too much significance in the swelling on the back of the hand was given.

The matter of a part-pay dispensary was brought to the attention of the members, but for lack of understanding of the function and purpose, decision was withheld until further discussion at the June meeting.

Norbert D. Gannon, M.D., *Reporter.*

FAYETTE—APRIL

At the April meeting, the principal speaker of the evening was Dr. H. M. Stewart, of Johnstown, who spoke on the general subject of cancer. The causes of this disease were given as irritation, heredity, and cellular theories. Emphasis was laid upon the early diagnosis of cancer, and the removal of moles, warts, and all suspicious growths.

Dr. V. P. Pisula, in a paper on "The Early Diagnosis of Cancer of the Breast and Uterus," stressed the importance of early recognition of breast tumors. He gave some points on the diagnosis of the growth, and favored radical operative treatment for the removal of all suspicious growths. The climacteric is the time to be on the alert for cancer of the uterus. Any increase in leukorrhea or any bleeding at this time should call for an examination. If one is not satisfied by the examination after the warning signs have presented themselves, scrapings from the body of the uterus should be examined microscopically.

Dr. A. E. O'Neill read a paper on "Cancer of the Throat and Esophagus," in which he gave a short résumé of the symptoms, stressing the fact that malignancy of one structure usually involves the other. Little was mentioned regarding treatment of this condition.

Drs. Thomas R. Francis and George Bernard Hudock became members of the Society, and Dr. Stuart Scott, of Cambria County, was transferred to the Fayette County Society.

Under the auspices of the Fayette County Medical Society, the fourth annual Campbell Lecture was held at the White Swan Hotel on April 26, 1928. The speaker for the evening was Dr. Harvey J. Howard, of George Washington University, St. Louis, Mo. He spoke on "Medical, Political, and Social experiences of a Medical Man in the Hands of Manchurian Bandits." The Campbell Lecture is held yearly under the supervision of a permanent committee of four physicians who are members of the County Society. A well-known speaker, in most instances a medical man, is secured by this committee. The combined banquet and lecture is attended by members of the county society and their invited guests.

The recent smallpox scare is well under control in Uniontown and the surrounding mining communities. One authentic case reported within the city is now under strict quarantine, and contacts with this case have also been quarantined. The earlier cases that occurred in April were in the surrounding mining towns, there being seven well-marked cases of variola in one community and three or more in another—all within one to three miles of the city limits. The miners and their families in the communities affected have been vaccinated under the direction of the State Department of Health. Notices appeared in the daily papers warning the people to be vaccinated if they had not been within the past ten years, and the physicians report that the people are responding well to this advice. Many children of the city schools have been vaccinated also by the city medical inspector of schools.

C. F. SMITH, M.D., *Reporter.*

LACKAWANNA—JANUARY-FEBRUARY-MARCH

At the meeting on January 3d, held at the Society's rooms in the Chamber of Commerce Building, Dr. Frederick J. Farnell, of Providence, R. I., gave an illustrated lecture on "Extrapyramidal-Tract Disorders." He discussed the differential diagnosis and treatment, with special reference to epidemic encephalitis, and outlined the pathology of acute and chronic encephalitis, giving a short description of the types of symptoms, and bringing out the fact that there can be a multiplicity of syndromes. These may or may not have something to do with the triad of symptoms—fever, ocular palsies, and lethargy. Groups were illustrated clinically and pathologically. The importance of a differential diagnosis was emphasized, and a method of treatment, self-sponsored for a number of years, was presented.

On January 10th the following officers were elected for 1928: president, J. C. Reifsnyder; first vice-president, Frank R. Wheelock; second vice-president, James J. O'Connor; secretary-treasurer, James E. O'Toole; librarian, Bryon H. Jackson; censor, T. G. Killeen; trustee, J. B. Corser. The suggestion of the State Society Trustees that the annual dues be increased $2.50 was approved. It was decided to send a representative to Pittsburgh to observe the work of the Freeman Commission. A brief address was given by the retiring president, Dr. L. G. Redding. About sixty members were in attendance.

On January 17th, Dr. George Philo Pitkin, of Bergenfield, N. J., spoke on "Spinal Anesthesia." This address was mainly a report on clinical and experimental work by the author. Motion pictures were shown of operations done under spinal anesthesia. This method is valuable to the surgeon, general practitioner, and obstetrician, as it eliminates postanesthesia complications, nausea and vomiting, and the drop in blood pressure. This is advantageous to the operator, and a measure of safety to the patient. X-ray pictures were shown to prove that the anesthetic is controllable. The physical action of various solutions was demonstrated in glass tubes representing the spinal column, and the control of spinal anesthesia was shown to be ideal.

On January 23d, before a record-breaking crowd, Dr. Emanuel S. Libman, of Columbia University, presented the subject, "Observations on Conditions Causing Precordial Pain—Angina Pectoris." With the aid of lantern slides the blood supply of the heart was shown, and a description of the details given. In advancing decades of life, the blood supply changes, the number of vessels diminishing on the right side, which results in later years in edema of the lungs, pneumonia, etc. Involvement of the right side of the heart may cause tremendous enlargement of the liver. Three dominant characteristics of true angina pectoris of coronary origin are anxious expression, fear of death, and nausea and vomiting. Pains that may be confused with angina pectoris, as well as hypersensitiveness and hyposensitiveness to pain, were discussed. Some symptoms which may be the result of angina pectoris alone are constriction of the throat while walking, weakness of the legs, sweating, or vertigo.

On January 24th, Professor Franz Groedel, of Bad-Nauheim, Germany, discussed "Pathology of the Heart by X-Ray Study." The value of the x-ray in the study of heart disease was brought out. The presence of cardiac insufficiency not demonstrable clinically was shown by x-ray. Lantern slides were used to illustrate different conditions of the heart. Professor Groedel's work shows a remarkable advance in the technic of making x-ray plates.

Dr. Frank C. Christian, superintendent of the State Reformatory, Elmira, N. Y., on January 31st made an address on "The Reclaimed Boy." There are about 1,200 boys in the institution of which he is the head, and since 1912 they have had a psychological depart-

ment to study criminology from a medical point of view. About 60 per cent of the boys have been found to be subnormal or mentally deficient. Dr. Christian believes that the most important method of controlling criminality is by study of the delinquent or truant child in his grammar-school days.

On February 7th, the Society had the pleasure of hearing an address by Dr. Thomas M. McMillan, of the University of Pennsylvania, on "The Estimation of the Myocardial Reserve." He discussed the rôle of the electrocardiograph in its determination, and pointed out that in examination of the diseased heart it is essential to ascertain the correct reserve power of the myocardium. It is the myocardium that is responsible for the heart's failure to carry on the circulation adequately, and not any mechanical defects such as valve lesions. It is largely through the work of Sir James Mackenzie that this view has become widespread. Lantern slides illustrated the work of the electrocardiograph, tracings being shown of some forms of heart failure which can be determined only by this instrument.

The regular monthly business meeting was held on February 14th. A necrology committee was formed, as suggested by the State Society Committee on Necrology, by changing the name of the memorial committee. The committee on public policy and legislation was requested to investigate the nature of the health articles appearing in the local papers written by the so-called "Dr." McCoy.

On February 21st, Dr. Charles M. Byrnes, of the Johns Hopkins University School of Medicine, read a paper on "Multiple Sclerosis." Dr. Byrnes was in Europe last summer, where he secured a number of very valuable slides showing the lesions in this disease. These aided him in his rather technical analysis of the pathology. Dr. Byrnes believes that multiple sclerosis is probably inflammatory. At the present time its etiology has not been proved.

The annual banquet in honor of the retiring president was held on February 28th at the Hotel Casey. Dr. A. C. Morgan, president of the State Society, was the principal speaker, and made an interesting talk on the cult problem. Remarks were made by the retiring president, Dr. L. G. Redding, and the new president, Dr. J. C. Reifsnyder.

On March 6th, Dr. Walter Estell Lee, of Philadelphia, read a paper on "The Surgical Treatment of Burns," in which he described the different kinds of burns, their causes, symptoms, and treatment, and dwelt at length upon the tannic-acid treatment which is being used to control the dead tissue in extensive burns of the soft parts. By spraying a 2½-per-cent aqueous tannic-acid solution upon the tissues the wound is débrided chemically. This covering prevents subsequent infection, combats undue radiation of body heat from the surface, protects the exposed sensory-nerve endings, and provides a covering under which the new epithelium reforms without the constantly recurring traumatization of the daily dressings required by the usual methods.

The monthly business meeting was held on March 13th, Dr. Reifsnyder presiding. Dr. F. J. Bishop, district councilor, made a report on the Freeman Commission.

On March 20th, Dr. John C. Kantor, of New York City, read a paper on "A Notion of Nervous Indigestion," in which he made a survey of the current literature on neurogenic and psychogenic disorders of digestion.

Dr. Charles Gordon Heyd, of the New York Postgraduate Medical School and Hospital, at the meeting held March 27th, made an address on "The Symptomatology and Pathology of Surgical Conditions of the Upper Abdomen," in which he outlined the symptoms and causes of the following conditions: gastroduodenal ulcer, acutely infected appendix, disease of the gall bladder, and jaundice.

M. M. Williams, M.D., *Reporter.*

LUZERNE—APRIL

At the meeting held April 18th, in the Medical Building, with President M. B. Ahlborn in the chair, Dr. H. Alexander Smith, of Wilkes-Barre, read a paper on "Congenital Clubfoot."

Dr. Smith: The deformity consists of inversion of the whole foot, adduction of the forefoot, and plantar flexion. The heel is elevated, and the forefoot broad and twisted. Paralytic clubfoot appears at one, two, or three years of age, after an attack of infantile paralysis; while congenital clubfoot exists from birth. Without treatment, clubfoot will steadily increase; with effective and continued treatment, all cases of clubfoot in children and up to middle childhood should be cured, and a useful and properly shaped foot obtained. In adolescents and adults, abnormal growth is present, and restoring function is more difficult and requires severe manipulation.

The foot should be overcorrected by the mildest effective means, and kept in an overcorrected line until the bones have been shaped, the soft parts have adapted themselves, and the muscles have acquired sufficient strength to maintain the foot in the overcorrected position. The earlier in life one starts on the treatment, the milder the measures required; the later in life, the more severe. Manipulative treatment which distributes itself through the foot is much more effective than local cutting operations.

In very young children it is probable that every case can be cured without operation, with the exception of tenotomy of the tendo achillis, by constantly repeated manipulation. After manipulation has overcome the deformity, adhesive dressing is used to maintain the correction. If parents cannot be depended upon to repeat the manipulations, it is better for the surgeon to perform the overcorrection and apply a cast.

The deformities are corrected in the following order: adduction, inversion, and plantar flexion. For adduction, the outer portion of the dorsum of the foot is placed on a block, and the forefoot pressed outward to eliminate the adduction. For inversion, a twisting motion is used, being sure to correct the inversion of the os calcis. For plantar flexion, the foot should be dorsiflexed beyond a right angle. After care is as important as it is for the surgeon to overcorrect the condition when operating, and unless it is thoroughly carried out, failure will occur. It may be necessary to keep the foot in a plaster cast for six months, especially in young children who are able to walk before the school age. Here the weight bearing is a benefit. After the cast is removed, it is well to use a brace for six months to a year.

Lewis T. Buckman, M.D., *Reporter.*

LYCOMING—MARCH-APRIL-MAY

At the March meeting the members approved the proposed fifty-million-dollar bond issue for buildings for mental institutions which will come before the State Legislature at its next session.

Dr. Isador Kauffman, of the Henry Phipps Institute, Philadelphia, read a paper on "When to Suspect Early

Tuberculosis." Dr. Kauffman stated that the diagnosis of early tuberculosis is difficult, and the point of interest is when to suspect the disease. Less than fifty per cent of early cases coming under his observation have bacilli in the sputum. The diagnosis should be made when the disease is curable. Ninety-five per cent of cases with blood in the sputum are tuberculous. Pleurisy, particularly with effusion, is tuberculous in the same percentage of cases. Seventy per cent of fistulæ in ano in which no definite cause can be assigned are likewise tuberculous. An afternoon fever, rapid pulse, and indigestion are important early symptoms. In the examination of early cases, auscultation reveals that the earliest change is localized suppression of apical breathing, and roughening of the inspiratory breath sounds in the apices. Râles after a cough at the end of expiration are heard early. Early changes are rarely seen on inspection. The x-ray is often an aid, but it cannot replace a carefully taken history and a thorough physical examination. Tuberculin is of value in children from two to thirteen years of age, and a negative test can be accepted as helpful.

Dr. Joseph Sailer, of the University of Pennsylvania, Philadelphia, addressed the Society on April 13th on "Circulatory Diseases, with Special Reference to Hypo- and Hypertension."

Dr. C. D. Koch, of the Department of Public Instruction, Harrisburg, was present at the April meeting, and spoke on irregular practitioners in Pennsylvania.

The annual spring clinic was held on May 11th, with Dr. Percy Starr Pelouze, associate professor of urology at the University of Pennsylvania, as the speaker. An interesting clinic was held at the Williamsport Hospital at ten o'clock, at which Dr. Pelouze demonstrated cases and discussed the "Pathology and Course of Gonorrhea."

Following a luncheon at the Park Hotel, the regular meeting was held. Dr. W. S. Brenholtz discussed the work of the Freeman Commission, explaining the present Medical Practice Act and the efforts of various cults to lower the standards of training under this act. He stated that physicians generally do not take the situation seriously. It is necessary for the medical profession to bring enough pressure to bear upon the Legislature to prevent it from lowering the present standards and producing legislation favorable to the cultists. It would be deplorable if the Commonwealth of Pennsylvania should write upon its statute books a law admitting to practice those who have not had the proper training. We should use our best efforts to prevent such an unfortunate blunder.

The scientific program consisted of a discussion of "The Treatment of Gonorrhea in the Male" by Dr. Pelouze who supplemented his instructive remarks with a lantern demonstration. He stated that the gonococcus penetrates much farther than any germicide which can be used locally. Gonorrhea is primarily a penetrative disease. The pathology is really deep in the mucous membrane beneath the columnar cells lining the urethra. The gonococcus prefers the columnar epithelium from the fossa navicularis to the bulbomembranous junction. Through these cells, it penetrates into the deeper tissues of the mucous membrane.

Gonorrheal toxin is irritating to the urethral mucous membrane, and its injection into the healthy urethra sets up a profuse purulent discharge of a nonbacterial nature. Many cases of supposed flare-ups of gonorrhea are really due to irritation of liberated gonococcal toxins.

Large doses of gonococcal vaccine are one of the greatest menaces to the patient. An individual in a stationary stage of the disease may be given a very small dose of the vaccine—for instance, about one tenth of the amount usually injected—and not more than four doses should be administered. To this he will respond well. Patients with beginning arthritis respond well to small doses of vaccine.

Diet, except alcohol, has no effect on the course of the disease. Sexual excitement is absolutely contraindicated. The activity of the patient has little bearing on the course of gonorrhea. What the patient needs is mild mucosal stimulation. The hydrogen-ion concentration of the urethral secretions is P_H 7.2 to 7.8. The mucosa must not be depleted with irritants. Almost any drug gives a chemical response, even though very mild. Even five-per-cent sodium-chlorid solution is a mild irritant. This applies to the anterior urethra. The kind of solution used is not of so much importance as is the strength in which it is used. Weak solutions of germicides give the best results, and are less irritating to the columnar cells lining the anterior urethra. The coöperation of the patient and his good conduct are most important. Without it, treatment is not a success.

Dr. Pelouze stated that his method of local treatment consists of a low-pressure irrigation of potassium-permanganate solution 1 : 5,000 in the urethra, followed by instillation of 5-per-cent argyrol or silver nucleate by means of an asepto syringe, using enough to balloon the urethra, and having the patient retain it for five minutes. This can be done once a day for the first two weeks, and then if the discharge has ceased enough to warrant it, the treatment may be continued every two days. This treatment for anterior urethritis cuts down posterior infection to ten per cent of the cases, and saves the patient many months of trouble and annoyance. Passage of a bulbar sound after the fifth week may be carried out if the gonococcus is believed to have gone. It should be passed to the penoscrotal angle. Later, a sound may be passed to the bulbomembranous area, and the urethra may be gently massaged over it. In treating posterior urethritis, nothing should be done until patient has regained his bladder comfort, except to administer sedatives. Then intravesical irrigations of 1 : 5,000 potassium-permanganate solution may be given, and later, gentle prostatic massage should be instituted.

W. E. Delaney, Jr., M.D., *Reporter.*

MONTGOMERY—MAY

The May meeting was held on the 2d with a large attendance present. The problems of the unlicensed practitioners and forthcoming medical legislation are receiving active attention.

Dr. W. Wayne Babcock, professor of surgery of the Temple University Medical School, Philadelphia, addressed the Society on the "Treatment of Aneurysm." He considers that the series of cases of Anel, Antyllus, Brasdor, Wardrop, and Halsted were found wanting. Matas's obliterating operation is good where it can be applied. The use of wiring, electric current, and introduction of horsehair seem rather to shorten life. Dr. Babcock studied the application of hydrokinetics to aneurysms, and applied it to a case of the arch of the aorta in September, 1925. The method used was to anastomose the internal jugular vein and the common carotid artery on the same side, to equalize blood pressure and decrease pressure on the lateral walls of the aneurysm. It was successful, and the patient is still living and well.

W. W. Dill, M.D., *Reporter.*

MONTOUR—APRIL

The meeting held April 28th at the Geisinger Memorial Hospital, with C. E. Ervin presiding, was arranged and the scientific program provided by staff members of the hospital. Dr. William J. Mayo, Rochester, Minn., was expected to be the guest of honor, but those present were disappointed because the intensity of the snow storm in the Alleghenies prevented the arrival of Dr. Mayo in time for the meeting. Invitations had been sent to physicians of the surrounding counties, and the attendance was gratifying. After the program, a buffet supper was served in the staff dining room of the hospital.

Dr. Adams of the surgical department read a paper on "Cystopyelography in the Diagnosis of Urologic Diseases." Lantern slides were shown illustrating ureteral strictures; ptosis of the kidneys; hydronephrosis; pyelitis; various kidney tumors; calculi of the kidneys, ureters, and bladder; and tumors of the bladder. The differential tests of kidney function made possible by ureteral catheterization were outlined, and the importance of the amount of dye eliminated during the first hour stressed. The absolute necessity of proper assistance from the laboratory in chemical, microscopic, and bacteriologic examinations was emphasized. Treatment of the various conditions was described.

Dr. Vastine, chief of the dental service, gave a comprehensive paper on "The Importance of Surveying the Whole Field in Oral Infection." To illustrate the subject matter, cases of cystitis, maxillary sinusitis of dental origin, iritis, bronchial asthma, and others, were cited. The following quotation from Dr. Vastine's paper served as the background for his discussion: "I feel that the main reason for oral infection becoming such a vicious and comparatively overlooked field in the realm of medicine is largely due to the divorcement of this field from medicine as a whole; that is, the dentist of the past has had his attention too closely focused upon the minutiæ of the teeth—periapical dental infection, if you so please to call it—thus having his horizon so limited that he could not possibly visualize the whole picture. On the other hand, the physician all too often has the mental attitude that the whole problem of oral focal infection is periapical dental infection and pyorrhea alveolaris."

A preliminary report was given by Dr. S. J. Hawley, of the department of roentgenology and radiotherapy, on a parallel series of oral and intravenous cholecystograms. There were 103 by the oral method, 34 of which were operated upon, with 4 errors in diagnosis. There were 113 by the intravenous method, with 37 operations and 5 errors in diagnosis. In two of the cases erroneously reported by the cholecystogram, extensive liver disease was present. Duodenal ulcer was found in one. No cause for the failure was apparent in the other cases. In the whole series of 216 cases, gall stones were shown in 3 without the aid of the dye, and in 12 the gall stones were revealed as negative shadows.

Dr. Ervin discussed various types and degrees of heart block. Lantern slides illustrated the anatomy of the conducting system; namely, the sino-auricular node, the auriculo-ventricular node, the bundle of His and its right and left divisions which terminate in the fibers of Purkinje. The fact that the impulse is carried from the sino-auricular node to the auriculoventricular node by conduction through the muscle of the auricle was emphasized. Electrocardiograms illustrated the various degrees of heart block, from the prolongation of the P-R interval to complete dissociation of the auricle and ventricle. An electrocardiogram was also shown of a case of auricular fibrillation in a patient with a toxic adenoma who was in a critical condition, and whose fibrillation cleared up after the oral administration of 38 grains of quinidin.

Dr. Foss conducted a dry clinic during which a number of patients were shown. The first had been operated upon some time before for a massive irreducible umbilical hernia. An extensive resection of the lower ileum and the splenic flexure of the colon had been performed, the entire omentum removed, and an ileocolostomy made in the upper left abdomen. Over seven feet of bowel had been removed. At a second stage a plastic operation had been performed on the abdominal wall, correcting the hernia. Nearly the entire intestinal tract had remained in a multiloculated sac outside the general abdominal cavity for several years, and had become irreducible. The patient is now in excellent health except for a slight looseness of the bowels consisting of two or three movements a day.

Several patients illustrating the hopefulness of surgical treatment of certain cases of advanced carcinoma were shown. One had had a carcinoma of the bladder operated upon four years before, at which time a complete extraperitoneal excision of the bladder had been performed, with a second-stage implantation of the ureters into the sigmoid. The patient has been employed for the last two or three years as a miner, and is in excellent health. Urine can be retained for four to six hours, with perfect anal sphincter control.

A case of puncture wound of the cerebellum with recovery was shown. The patient was a child, who had been running with a long ivory crochet hook in its mouth, had tripped over a carpet and fallen, driving the hook through the jugular foramen into the left hemisphere of the cerebellum. The foramen was exposed through the mouth, and the hook removed from the brain, with ultimate complete recovery. For a time there had been involvement of the ninth cranial nerve with some glossopharyngeal paresis and some cerebral ataxia.

Dr. Foss closed the program by showing several patients with acute infections of the hand with secondary abscesses involving the palmar fascial spaces. The diagnosis and treatment were illustrated by means of moving pictures.

C. E. Ervin, M.D., *Reporter.*

PHILADELPHIA
April 18, 1928

The president, Dr. I. P. Strittmatter, in the chair.

Symposium on Public-Health Legislation

Mr. William Catcher, former teacher of anatomy and physiology at the Ross College of Chiropractic at Fort Wayne, Indiana, said that he had gone to Fort Wayne to secure a position in the high school there as a teacher of English, but had been persuaded by the night clerk in the hotel to apply for the position of professor of anatomy and physiology then vacant at the Ross College of Chiropractic. Though he knew nothing of those subjects, he was engaged and his first lecture to his 130 students consisted of a two-hour dissertation upon the coal strike then in progress, a topic comprehensible by his audience of mechanics, barbers, and the like, and which produced a tumult of applause at the close.

While he was there it happened one night that a colored woman brought in a baby who had been sleeping for twenty-four hours. A student-janitor greeted her, grabbed the child by the nape of the neck, shook it violently, and it awoke with a squeal. "Lady, take

it home," he said, and the next day the press came out with "Case of sleeping sickness cured by chiropractor." Thousands of people flocked to their clinics, where there could be heard the sound of a continuous expiratory grunting as the adjustments were made upon the tables. A patient suffering with tuberculosis was told to report for immediate cure the next day at twelve.

In one chiropractor's office hung a cross section of the human body so arranged with electrical connections that vertebræ would fall in response to disorders of the various organs, but for all the display, a fellow chiropractor told the speaker that this man was no good, rotten—"Come to me."

The Ross College had in its cellar a chemical laboratory which was never used. There were no other laboratories of any kind and no dissecting room. The teachers were absolutely unqualified, but the college conferred a diploma upon its graduates. The speaker was instructed to lecture on chemistry, of which he was totally ignorant, so he told the boys that nitrogen was one of the elements in the air, and consumed the remainder of the hour in passing around a bottle of nitric acid for them to smell. Later, when lecturing upon the skin, a similar period of time was passed in pouring upon each student a little ether as a demonstration of evaporation. The one pupil who had seemed attentive was later discovered to have been interested solely in discerning the nature of the lodge button in the lecturer's lapel. There is no condition, no matter how grave, that the chiropractor does not claim to cure. The situation became unbearable. Mr. Ross was urgent in his appeal, "Stay with us, for you have the one thing we need—the gift of gab. Stay, and the sky will be the limit."

To abolish chiropractors, their methods must be understood. Their strength comes from the fact that they give the patient hope that in a certain time he will be well. The medical profession has been a little too stiff, and has had too little contact with the patient. Correction of this mistake alone would make the chiropractor superfluous. Then, too, the medical profession should begin clearing out its own house, especially those young practitioners who become specialists in one year and practice little less than quackery. The chiropractors must be fought on their own ground—a responsibility which must be assumed by the medical profession.

Mr. Charles Pitcher, of the Pennsylvania Hospital Association, reminded the audience that the profession is facing organized trumpeting and blatant advertising, and the question is raised, if the chiropractors are practicing illegally, why doesn't the law stop them? If the assertions made in the March number of the ATLANTIC MEDICAL JOURNAL can be proved, they will call for a fraud order from the Postoffice Department of the Federal Government.

True it is that the hospitals and physicians are not on their job in developing physiotherapy.

The year 1923 saw the first aggressive lobby of chiropractors, and by 1925 their strength had increased, while in 1927 a mob of them gathered at Harrisburg, soliciting legislators and employees to go for adjustments, and swamping them with letters and telegrams. In this year, as a compromise measure, a commission was appointed to study the laws relating to the healing art. The hospitals and doctors are interested particularly in the welfare of the public. There are 135 state-aided hospitals, and the present move would force all such institutions to open their doors to the chiropractors. The American Medical Association, the Pennsylvania Hospital Association, and others have recently agreed not to credit any hospital allowing cultists to practice therein. The chiropractors are a tough lot—the public does not know what they are. Publicity along this line is needed, with boiler-plate reports sent to country newspapers. Letters and telegrams must be sent to senators and representatives during the legislative session, and affable and convincing members of the medical profession should be in Harrisburg on Monday nights.

Dr. A. C. Morgan, president of the Medical Society of the State of Pennsylvania, said the purpose of the meeting was to present facts without oratory, provable statements, and honest convictions. This work has been thrust upon the State Society because of the arrogant assumption on the part of the chiropractors and cultists that the State Board of Medical Education and Licensure should be abolished; that all State-aided institutions should receive the cults on a parity with the medical profession; and that all such institutions should receive chiropractic students on a parity with medical students for instruction in fundamentals. Since 1898 the Anatomical Board has submitted not one body to cultists schools for dissection; ninety-eight per cent of their institutions are maintained by persons not licensed to practice any form of the healing art in Pennsylvania, and these institutions have been declared illegal and unethical. This charge has been substantiated by a decision of the Deputy Attorney General, in an unbiased, unprejudiced report by judicial observers, and also by the result of an inspection of Pennsylvania cult colleges.

The medical profession has earned criticism for its supine attitude in the past, when it chose to disregard and ignore the cultists, but the noise of these irregulars is increasing, and action is necessary. It is the psychologic moment for the proponents of civic decency, for the medical profession that protects the lives and health of the citizens, to speak in no uncertain terms, for they have the best interests of the community at heart, as has been evidenced by the laws on sanitation, hygiene, vaccination, quarantine, and the like. The Board of Trustees and the entire body of the State Medical Society are back of the Public Health Legislation Committee in this fight. Since the chairman of the House Committee on Public Health Legislation failed to respond to four official letters asking when the meeting was to be held, the medical profession was not represented at Harrisburg when the meeting took place. There is a responsibility upon each member of the profession to perform his duty in the way to be outlined by the next speaker.

Dr. Paul R. Correll, Easton, chairman of the Committee on Public Health Legislation of the State Society, said that his enthusiasm was at a low ebb, since he had recently addressed seventeen county societies and was feeling somewhat akin to a traveling circus. His message is to the doctors and to those people who respect the laws and realize the responsibility of the State for the regulation of public health. Throughout the State he has heard much unfavorable comment about the Philadelphia County Medical Society—that it is not awake, that though it usually represents the leadership of the component members of the State Society, in the present controversy it has fallen behind. True, it is a large cumbersome body, and time is needed to gain the necessary momentum.

The battle is an old one, and we are in about the fourth round. The medical profession, as represented by the licensed healers, stands for the perpetuation and protection of the instruments of safety that have been passed for the benefit of the public. It must meet the aggressive attacks of the irregulars. It is not a battle

against the unlicensed cultists, but a controversy between licensed practitioners who have subscribed to the laws, and those men and women from without who desire to discard the law and substitute that which suits their ideas and make-up. Those applying for franchise should have obeyed the laws and statutes; they should approach the court of equity with clean hands. The twelve hundred unlicensed cultists who are practicing in Pennsylvania today are saying, "We must have means of being legalized so that we can practice our illegal methods in a legal way because we demand it—out of wrong should come a right."

The chiropractors' demands are multitudinous and grandiose. They ask the abolition *in toto* of the Medical Practice Act of 1911, which means the abolition of the Board of Medical Education and Licensure and all laws pertaining thereto. What are their assets? First, unbounded arrogance and self-conceit; second, the employment of the most skilled creators of propaganda and political chicanery in the country; third, a willingness to pay the fiddler. Recently Blanche Young (the representative of the chiropractors on the Freeman Commission) stated that one good chiropractor was of more value to the city of Pittsburgh than six doctors. The proposition is now nation-wide, and the Pennsylvania Chiropractic Association is but a small fish in the pool that is swelling to flood the barriers of Illinois, New York, and Pennsylvania. They are employing two of the most skilled men as general publicists, and their assertion is that chiropractic represents something which the doctors have overlooked.

The amount spent for their propaganda to date is far surpassed by funds now available. When the Ohio referendum was lost, they came east; then the action of New York, requiring medical examination and prescription before chiropractic treatment, drove more of them to this State, so that in one small county in six months their number increased from seven to twenty-five—yet so migratory are they that at the end of the six months not one of the original seven was there. They have no right to franchise or license; the legislature owes them nothing. At a Helen Grimes rally staged by the Chiropractic Association in Pittsburgh, to which fifteen hundred invitations were issued, thirty-eight were present, and the stenographic notes of the speech made by Blanche Young on that occasion, which will be published in the journals, will be worth reading, such is her condemnation of the indecent, dishonest, medical profession. The general technic of their campaign is rule or ruin. What they hope to accomplish is the insertion of a small paragraph in the act of 1911 that shall say, "Inspected and passed, twelve hundred illegal practitioners."

The maximum period of teaching in the chiropractic schools is eighteen months, and the proprietors promise protection against prosecution. They demand that no requirements shall be expected of the present chiropractors.

This is the fact to which we must subscribe: *When organized medicine in Pennsylvania is made to know that any form of treatment has sufficient basic knowledge, it will offer no argument as to what system or type of treatment the individual may use. So long as the irregulars cannot and will not present themselves with the fundamentals necessary for safe healers, the medical profession will fight their licensure.*

What has the medical profession been doing? The speaker has been traveling through the State with this message. There has been an educational effort, and there should be more, on the part of the individual doctors to enlighten their friends and contacts. By means of a questionnaire, thirty-four per cent of the vote on Bill 933 has been reversed. The present Joint Conference Committee has an ear sensitive to any constructive ideas. While there is now sufficient activity throughout Pennsylvania to win the battle, Philadelphia must ride along wholeheartedly, one hundred per cent in this effort to maintain just and adequate standards, and to support the old and tried law. Coöperation is needed as well as suggestion, charity, and consideration. Let final judgment be withheld until the final day of adjudication.

In general discussion, *Dr. Wilmer Krusen* said that we deserve a scolding because of our apathy in regard to this proposed legislation. Some years ago at Harvard the American Association for the Protection of Medical Progress was organized. Its present president is Charles E. Hughes. In Philadelphia its chairman is Mr. Roland Morris. This association is comprised of educated laymen who desire to assist the medical profession in their battle against the antivivisectionists, the antivaccinationists, and the cults. It would be well to send to this committee names of prominent laymen who will join them. It is hard to arouse our fellow members to the menace of the cults, for they are loth to be accused of improper or selfish motives. Can you see the chaos when a chiropractor is put on the staff of the Philadelphia General Hospital?

Dr. George C. Yeager, chairman of the Committee on Public Policy and Legislation of the Philadelphia County Medical Society, said that in Philadelphia, because of its size, the situation is different, and in politics it is votes that count, nothing else. In this city there is no minority, and the doctor could get few votes against the iron-bound organization. The logical way for our members to help is to go to the ward leaders, state our case, and ask for honest consideration.

Dr. Wm. Duffield Robinson reminded the audience of the frequent attempts on the part of the cults to dispense regular medicine.

Mr. Wm. L. Cliffe, a pharamacist, cited the case of his own brother who, after an accident, developed tuberculosis of the spine. A chiropractor volunteered to have him walking in three weeks, fee prearranged; but though offered twice the sum—in writing—to be paid as soon as the cure was effected, he did not take the case. The education of everybody who proposes to practice the healing art is a fair proposition and must be emphasized, for it is the real issue.

Mr. Richard Beamish, of the *Philadelphia Press,* said among other things, that the Act of 1911 owes more to one man, Dr. Charles B. Penrose, than to all the members of the medical profession.

Dr. H. M. Goddard suggested that Dr. Yeager organize committees to wait upon the ward and district leaders.

April 25, 1928

The president, Dr. I. P. Strittmatter, in the chair.

Branch-Society Night
Southeast Branch

Dr. Sigmund S. Greenbaum: Eczemas in Infants and Children and Their Treatment.—Though there is a considerable degree of pessimism regarding the therapy possible in infantile eczemas (infants to five years), prophylactic, palliative, and curative means yield favorable results. Eczemas are caused by a wide variety of agencies working both from without and within, and the condition varies with the degree of sensitiveness and with the quantity and quality of the irritant. The term

eczema or dermatitis is no longer sufficient; the cause must be given. These causes fall into two groups—external and internal irritants. In the former group are the mechanical, chemical, bacterial, and parasitic excitants; in the second protein sensitization and indigestion. Rubbing and scratching are the chief mechanical irritants and it must be borne in mind that the scratch habit may be a manifestation of nervous imbalance, and that itching without inflammation may result from exposure to wind, or from hypothyroidism or ichthyosis. Under the chemical irritants fall strongly alkaline soaps, dyes, especially in wool sweaters, salivary decomposition from drooling in sleep, or ammoniacal urine. Etiologic bacteria may arise from improper cleansing of the body creases, from an otitis media or impetigo, or from milk crusts of the scalp. Parasitic agents are usually of the tænia variety, and call for treatment of the original condition.

The endogenous group is small but ill-understood, and presents the greatest difficulties. In bottle-fed and nursing children a characteristic type of eczema is apt to develop from the second to the fifth month, originating on the face and spreading over the body to form vesicles, pustules, and crusts. These children are usually in excellent condition otherwise, and the dermatitis tends to heal spontaneously about the second year. In nursing babies, improvement is attained by a thorough cleansing of the mother's gastro-intestinal tract or by weaning, while the bottle-fed infants require colonic irrigations, and change in formula and in the amount and number of feedings. Weaned children, up to five years of age, are prone to the facial type, or to an eczema limited to the flexor regions. Since there is a definite relation between one or more foods and some of the infantile eczemas, food tests should be made, though a positive test is not always a criterion for treatment, and symptomatic therapy should be employed. The effect of withdrawal of an offending protein may not be seen for some time if the case has been of long duration.

External treatment, no matter what the cause, is always necessary, employing an ointment of petroleum jelly and resorcinol or salicylic-acid, a five- to ten-per-cent aqueous ichthyol solution, or two- to five-per-cent silver nitrate. The arms should be splinted and the face protected if there is scratching, and luminol, bromids, or acetophenetidin may be needed. A near specific is to be had in washed crude coal tar as a paste, and for older children the x-ray is of value. Since all eczemas in babies have good curative possibilities if treated early, prompt attention should be the physician's aim.

Dr. Edward L. Bauer for Dr. A. A. Cairns: Announcement of the Diphtheria-Prevention Program of the Department of Public Health for the Summer of 1928.—The Director is eager to have Philadelphia's efforts for diphtheria prevention known, for it is part of the profession's problem, and he desires their coöperation and asks that they follow carefully the publications from the Department of Health. Diphtheria prevention has been practiced in this city since 1919. The work at first was limited to institutions caring for the young child, and consistent, remarkable results were obtained. Then the work was started in ten city health centers, with an effort to get the preschool-age child, but this was not enough to make any serious impression upon the diphtheria statistics. More health centers are needed, and extensive work must be done, for it is in the preschool age that most of the mortality from this disease comes. While the school work eliminates diphtheria in that group and therefore is important, its greatest benefit lies in its educational value to the parents. Director Cairns now has a threefold plan: first, he urges the family doctor to solicit his families to protect their children who are over six months old; second, beginning June fourth at three o'clock, immunization will be offered by the Department to preschool-age children in seventy public schools, eight parochial schools, ten health centers, eight hospital centers, and one community center; third, the city will be circularized. The incidence of diphtheria already has been cut to one-third. Not more than one thousand cases should occur in Philadelphia in 1920-30. First, let the physicians clean house, then let the Board of Health follow up and finish the job.

Dr. Walter S. Cornell: Diphtheria Immunization of 152,000 Public-School Children and the Results.—Diphtheria has been the most fatal of children's diseases between the ages of three and nine. Before antitoxin was discovered, in 1893, the death toll was tremendous, while in 1900 the rate was 43.3 per 100,000 population. In 1924 it led the list of contagious diseases, with a mortality of 9.4 per 100,000. In Pennsylvania there has been a gradual decrease in the number of deaths from 13,877 in 1923 to 6,749 in 1926; and in Philadelphia, in 1919, there were 3,763 deaths as compared to 2,607 in 1927. In New York City, where the problem is an immense one, the mortality has been reduced to less than 10 per 100,000, and in other cities it has become almost nothing. Of seventy-eight cities with over 100,000 population, Philadelphia stands tenth from the end, having a rate of 10.8 in 1927.

In 1912 an attempt was begun in the schools to isolate carriers by culturing throats of contacts, and while Dr. Wilmer Krusen was Director of Health the Department of Medical Inspection of Schools was instructed to undertake this diphtheria-prevention work, giving toxin-antitoxin without a Schick test, since there are errors in the reading of the Schick test, and the administration of the prophylactic injections takes no more time and is quite harmless. In May, 1926, three school districts were covered, and the remaining seven were done the following September, thereby immunizing 117,000 children, or about 50 per cent. Subsequent endeavors have been made, and every May and September circulars are sent to the parents of all children up to and including the third grades. Soon, it is hoped, 80 per cent of the school children will be immune. Before 1926 there was an average of 750 to 950 cases during the school year, while in the present year, not more than 350 are expected. In April, 1927, an investigation was made which showed that among 110,139 children immunized, 44 cases of diphtheria occurred, while among 99,639 who were not given toxin-antitoxin, there were 317 cases, or about eight times as many. In the first group, the diphtheria occurred within three months of the administration of the toxin-antitoxin. To the teachers in the schools belongs much of the credit, and though half a million doses were given there were no bad accidents. Whether or not the children are sensitized to horse serum is not known, but this should be investigated. Schick tests are now being made on 50,000 children in the lower grades.

Dr. Henry A. Strecker reported that similar work is being done in the parochial schools, wherein about fifty per cent are now immunized. Their cases have been reduced to less than a third of the number occurring formerly, but he believes there will now be more carriers, and the care of the unimmunized child must therefore be stressed.

Dr. James M. Anders was impressed by the fact that it is now at least nine years since sufficient practical knowledge was gained to proceed with this work, and

though Dr. Park long ago predicted that in five years diphtheria would be eradicated, only 50 per cent of the children of primary-school age are immunized today. The departments of health have given this work the greatest stimulus, for the practitioners have not realized their responsibility. It is most important that the preschool-age child be reached. A course in diphtheria to aid doctors in the early recognition and treatment of the disease would be advisable. Though in this city 200,000 children have been immunized, there have been no bad results.

Dr. J. M. Cahan, in defense of the apparent lethargy on the part of practitioners, cited his own experience when he was advised by the American Medical Association that he might be judged unethical if he solicited his patients to have toxin-antitoxin given them.

Dr. Walter Cornell reminded the audience that the decrease in the number of cases of diphtheria will not be maintained without constant effort, for 40,000 children are born in Philadelphia every year. The County Medical Society should print circulars on the subject of diphtheria and send them to physicians for use in their office. Five-sixths of the deaths from this disease occur in the preschool-age child; therefore, it is the department's aim to treat 50,000 babies in June.

South Branch

Dr. John C. Hirst, 2d: Practical Considerations in the Use of the Female Sex Hormone.—Endocrine extracts have been claimed as a cure for everything peculiar to women, but the various products that have been offered for ovarian dysfunction, whether single or in composition, have proved expensive and futile. There are two new extracts, however, both lipiodal, in aqueous solution, obtained from the placenta, parts of the ovary, and parts of the fetal structure, that do produce results. One of these is Squibb's ovarian hormone, which is very expensive, and the other is oestrogen, put out by Park, Davis & Company, and standardized to contain twenty-five rat units per c.c. The following uses are urged by its makers: functional amenorrhea, subjective disturbances of the menopause, sexual frigidity, delayed puberty, lack of secondary sex characteristics, and mental depression. After carefully testing twelve functionally disturbed women (basal metabolism, Rubin, and acidity of vagina), and after examination of their husbands for potency, they were given oestrogen and five became pregnant. Twenty-seven out of forty cases of sexual frigidity were relieved, in most cases with the production of a strong orgasm. The minimum dosage is two cubic centimeters given intramuscularly with a boiled and cooled syringe (not alcohol). In conclusion, the preparation mentioned is potent, the results are calculable on a scientific basis, and the effects endure. It produces no local or general complications.

Northeast Branch

Dr. L. D. Englerth: Pyloric Stenosis.—Congenital hypertrophic pyloric stenosis occurs in the first few weeks of life, and is evidenced by vomiting, loss of weight, hunger, absolute constipation, and pyloric tumor. It is a condition that may readily be overlooked. It happens frequently in the firstborn, and about six times as often in males as in females. The pyloric musculature is differentiated in the fourth month of fetal life, and the condition of pyloric stenosis has been observed in the fetus. Probably it arises from an imbalance, an incoördination between the sympathetic and parasympathetic innervations, and the muscle hypertrophies from overstimulation and overaction. Though the etiology is obscure, the pathology is definite. The duodenum is not involved in the tumor, but is thinned. The stomach is enlarged and later dilated, with a redundant mucosa and a patulous but obstructed pyloric canal. The small intestine is empty. The child is thin, anemic, emaciated, dehydrated, with symptoms of projectile, bile-free vomiting immediately after the taking of food, followed by ravenous hunger. The urine is scant, there is obstipation or passage of some meconium, and rapid wasting. It must be differentiated from pylorospasm, congenital anomalies of the small intestine, intussusception, toxemias, and food disturbances. A serious prognosis must be given in fifty per cent of cases, though early operation reduces the mortality. Surgery is indicated if the condition persists after a short medical treatment comprising gastric lavage, less frequent nursing, less food, and belladonna. The operation should be done under local anesthesia, the incision being made midway between the ensiform and umbilicus, and slightly to the right. After-treatment should aim to prevent shock—heat, intraperitoneal saline solution, and small feedings of breast milk—coworking with the pediatrician.

West Branch

Dr. Clement R. Bowen: Some Aspects of Medical Legislation.—The medical profession is too engrossed in its own business to notice things legislative and to realize that every two years the cult question has been coming up, but it would be well to pause long enough to note the vote on the chiropractic bill as published in the April number of the Atlantic Medical Journal. Not half the profession know the chiropractors are demanding that they be placed upon an equal basis and given power to treat contagious and infectious diseases and sign death certificates. In Illinois, even the barbers are requiring a high-school education for their students —a higher requirement than that made by the chiropractors. In Pennsylvania the vote on the chiropractic bill was 143 for it and 60 against it. The medical profession must educate the public, for the bill will come up again.

North Branch

Dr. Benjamin Ulanski: Electrophysiotherapy; Its Value to the General Practitioner.—The question of the value of physiotherapy is no longer mooted, but it must be correlated as an adjunct to present known methods. Its use requires diagnostic and therapeutic acumen. It must be realized that in anemias the ultraviolet ray increases hemoglobin, leukocytes, and platelets; in bronchitis and pneumonia diathermy is of definite value; in gastric atony and ptosis a slow sinusoidal current will strengthen the muscle; and in rickets, hay fever, and various skin lesions ultraviolet radiation is remarkably beneficial. In the field of orthopedics, ankylosis will often yield to diathermy and sinusoidal currents, as will also lumbago and osteomyelitis, and healing is hastened in fractures and wounds by the use of the ultraviolet ray. In gynecology, diathermy will benefit a chronic gonorrheal salpingitis, and phototherapy and the ultraviolet ray lessen dysmenorrhea. In genito-urinary work, diathermy will cure a chronic prostatitis and decrease by half the time required to cure an epididymitis. Surgically, electrocoagulation, desiccation, or fulguration provides a sterile, bloodless way of removing surface growths. Diathermy should not be used over the seat of a hemorrhage, never in pregnancy, nor where there is poor drainage, nor upon ulcers. Proper tools and a sure basic knowledge are necessary for good results.

Mary A. Hipple, M.D., *Reporter.*

WARREN—MAY

The Society was addressed on May 21st by Dr. George Eckels, of Buffalo, N. Y., on "Heart Disturbances." He emphasized that it is by no means proved that cardiac disease is on the increase. The longer people live, the more apt they are to die of heart trouble, and physicians are especially prone to die of this disease. While uplift organizations have a place, they too frequently exaggerate the conditions they seek to overcome. The prevention of heart disease is a worthy object, but so far, no great progress has been made in this direction.

Any infection may produce carditis; acute rheumatism is not the only factor. It is a safe plan to follow that if signs are present without symptoms the patient may be let alone, but symptoms without signs call for treatment. A lessened tolerance to exercise, with shortness of breath is of more importance than murmurs, although the early symptoms of tuberculosis, of thyroid disease, and of leukemia must not be forgotten. When a breakdown follows an acute infection in middle age, plenty of digitalis is valuable. Rest is also important in this condition.

Angina is still an obscure trouble. It is probably a distention of the aorta, and should be treated like heart failure. It is likely a form of congestion, and a better term for it would be congestive heart failure. Rest and digitalis are important here.

There is no size of the heart that is strictly normal. It is more important to know if the contour is changed or the heart is enlarged on one side. The heart should be compared on an x-ray screen with the diameter of the chest. On a six-foot screen it should occupy fifty per cent of the transverse diameter of the chest.

Blood pressure too often is wrongly interpreted. Here again there is no normal, and no one has a right to draw conclusions from a single test. If the pressure is high, several tests should be made at different times of the day, with the patient prepared very much as for a basal-metabolism test. Dr. Eckels calls this the basal blood-pressure determination. Great variations will be found when such care is taken, so that benign hypertension and malignant hypertension may be spoken of.

The disease which has been called subacute bacterial endocarditis was briefly described. It is an infection engrafted on a damaged heart, and is very insidious and indefinite in onset. Blood culture, however, is positive, and emboli may form in the spleen and kidneys and in the skin. It is fatal.

The meeting was attended by about fifty per cent of the members. It was held in Jamestown, N. Y., at the Hotel Samuels. Drs. Young, Knapp, Weston, and Weston were the hosts at dinner.

M. V. BALL, M.D., *Reporter.*

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

MRS. E. KIRBY LAWSON, *Editor,*
2533 Walnut Street,
Harrisburg, Pa.

NEWS OF INTEREST

The following contributions to the Medical Benevolence Fund of the Medical Society of the State of Pennsylvania have been made by county auxiliaries of the State: Allegheny, $267; Beaver, $125; Fayette, $350; Lehigh, $100; Potter, $10; and York, $50.

Mrs. J. J. Meyer, Johnstown, Pa., has been appointed Councilor for the Eleventh District.

A program of music and readings was recently given by children of members of the Woman's Auxiliary of the Indianapolis Medical Society.

COUNTY AUXILIARY REPORTS

Clearfield.—The annual luncheon was held at the Dimeling Hotel, Clearfield, on Wednesday, April 18th. The guests were Mrs. Charles H. Smith, State president, Mrs. James I. Johnston, and Mrs. Edward Pardoe. Mrs. Smith spoke in regard to the Medical Benevolence Fund, and Mrs. Johnston stressed the importance of defeating the legislative demands of the chiropractors. Mrs. Pardoe gave a short talk on the magazine *Hygeia.* Forty-one members were in attendance.

Dauphin.—A meeting was held on Tuesday afternoon, June 5th, at the Academy of Medicine. Mrs. C. R. Phillips presided. After a short business session, Miss Alma Louise Payne gave a dance recital assisted by other artists. Refreshments and a social hour followed.

Fayette.—The Auxiliary met in the Gallatin Room of the White Swan Hotel, Uniontown, on Thursday evening, May 3d. Mrs. A. E. Crow, the president, who had been in the South for about three months, presided.

The open meeting held on April 5th, which was attended by approximately 125 people, was most instructive, and the Auxiliary is indebted to the speakers for a very beneficial and entertaining program. Dr. Stewart spoke on "Prevention and Treatment of Cancer," Dr. Bell on "Public Legislation," and Dr. Hess on "Our Work in the Present Election." A short business session and the annual election followed. The officers for the coming year are: President, Mrs. A. E. Crow; first vice-president, Mrs. J. L. Messmore; second vice-president, Mrs. Wm. J. Bailey; recording secretary, Mrs. H. J. Nixon; corresponding secretary, Mrs. J. L. McCracken; treasurer, Mrs. George Evans.

Mrs. Crowe will announce her committees later. She urged every member to give her best efforts and enthusiasm to the work of the auxiliary and make it a power in the interests of public health in the county.

Erie.—On May 25th, the Auxiliary held an open public-health meeting, at which Dr. Mary Riggs Noble, of the State Department of Health, Harrisburg, was the chief speaker.

Lycoming.—The April meeting was held at the Woman's Club, Williamsport, with the president, Mrs. A. F. Hardt, in the chair. A revised copy of the constitution and by-laws was presented by the committee chairman, Mrs. H. P. Haskins, which was formally adopted. Final plans were made for a supper dance to be held at the Lycoming Hotel on the evening of May 1st, also for an antique sale to be held in the near future. Mrs. J. L. Mansuy, chairman of the Permanent Home Committee, planned for a card party to be held some time in May to sponsor that project.

The following committee chairmen were appointed: Mrs. P. E. Decker, membership; Mrs. J. Gibson

Logue, legislative; Dr. Elizabeth Heller, affiliating, the latter to confer with the County Medical Society in regard to a public-health meeting to be held on a date convenient to both organizations.

Dr. W. S. Brenholtz, Councilor for the Seventh District, spoke in regard to the Medical Benevolence Fund and the Chiropractic Bill. The Auxiliary manifested much interest in both subjects and passed the following resolution on the latter: *Resolved,* That we, the members of the Woman's Auxiliary of the Lycoming County Medical Society, heartily endorse the present action of the Medical Society of the State of Pennsylvania to prevent any lowering of the standard for legalized healers within the State; that we believe no laws should be enacted which will in any way reduce the qualifications required by the present medical practice act, thereby creating a lower standard for legalized practitioners; and that we pledge our assistance in helping to cause the defeat of the proposed vicious public-health legislation. We also note with regret that our representatives from this district voted for the 1927 Chiropractic Bill, and strongly recommend that they not only vote against the 1929 bill, but use every effort to defeat it, and that they be sent a copy of this resolution.

Montgomery.—A regular meeting was held on Wednesday, May 2d, at the Nurses' Home, Montgomery Hospital, Norristown. Mrs. Perry McLaughlin presided. The chairman of May Day-Child Health Day gave a very interesting report. All county papers had been sent articles, which they published once a month. The local papers published articles each day. Two preschool health clinics were held in charge of Drs. Sara Maule and Read Roberts, members of the County Society.

Resolutions on State legislation, prepared by Dr. Paul R. Correll, were adopted. The present medical educational standard was endorsed in the interest of public health and the well-being of the citizens of our Commonwealth.

The chairman of the program committee reported an evening party held for the benefit of the Medical Benevolence Fund. About seventy dollars was raised.

The guest of the afternoon was Dr. Percival Nicholson, of Ardmore, who spoke on "Sunlight and Fresh Air for Children." Following the business meeting, the Auxiliary members served light refreshments to the members of the County Society, who held a separate meeting.

Potter.—The spring meeting was held on May 8th at Old Hickory Inn, Coudersport, with eight members present. A luncheon followed the business meeting. The president urged all members to work hard for subscriptions to *Hygeia.* Ten dollars was given to the Medical Benevolence Fund.

Westmoreland,—The monthly meeting was held in the Nurses' Home of the Westmoreland Hospital, Greensburg, on Tuesday afternoon, April 10th. One new subscription to *Hygeia* was reported, and the Public Health Committee was instructed to place this magazine in a number of public reading rooms throughout the county. The membership committee presented the name of Mrs. J. D. Caldwell, of Irwin, for membership.

On April 27th, the third annual banquet was held in the Elks Club, Greensburg, at 6:30 p. m. A number of distinguished guests were present, among whom were Dr. and Mrs. William J. Mayo, of Rochester, Minn.; Captain Irving O'Hay, of New York City; Mrs. Charles H. Smith, of Uniontown, State Auxiliary president; Mrs. E. P. Pardoe, of South Fork, State chairman of *Hygeia;* and Mrs. J. J. Myers, of South Fork, State chairman of medical legislative work of the tenth district. Visitors from seven other counties were also among the guests. The hospitality and program committees were untiring in their efforts to make this meeting a success.

On Tuesday, May 22d, a meeting was held at the home of Mrs. H. A. McMurray, Youngwood, assisted by Mrs. W. H. Brown and Mrs. W E. Errett. No further meetings will be held until September.

THE WOMAN'S AUXILIARY

EXTRACTS FROM AN ARTICLE IN THE *Maine Medical Journal*

BY MRS. DAVID PARKER

The idea of constructing a woman's auxiliary to the medical profession was born in the brain of a Texas woman. Following that suggestion, in 1917 the Dallas County Medical Auxiliary of Texas was formed. The following year, 1918, an Auxiliary to the Medical Society of Texas was organized. Four years later, at the St. Louis meeting of the American Medical Association, with the sanction and approval of the House of Delegates of that body, a National Auxiliary was formed. In May, 1927, twenty-seven states, including the District of Columbia, sent delegates and reports to the meeting of the Auxiliary to the American Medical Association, and nine more states were reported in process of organizing.

What is its purpose? It is primarily to act as an intelligent medium between the medical profession and the laity, to interpret properly their ideals and aims, and to act as liaison officers between the medical profession and the numerous lay organizations to which all women belong.

The specific work that each auxiliary shall do depends upon the need of the state in which it is situated. Auxiliaries can assist the profession in doing the things needful in health movements and can be the educators and distributors of these measures—in the spreading of the gospel of pure milk, pure water, etc., working along these lines always with the public-health official. They can stimulate interest in periodic health examinations by the family physician, urging the medical profession to begin at home. They can help to bring into the birth-registration area all the states which are not now in that area—a very important step in the South and West—and can help to collect vital statistics. They can assist in securing better medical legislation. By this it is not meant that they shall become "politicians" in the objectionable sense of the word. They must not be aggressive, but should exert their influence in unison with the male members of the family, and should take an active interest in molding public opinion, in educating the public as to what ethical medicine stands for and what laws are advantageous to the people as well as to the medical profession. There is no other organization which can so well put across to the representatives which make up the legislature the laws that should be enacted.

The Auxiliary is sure to become an important factor in the medical life of America, and it is not fitting that any state shall fail to take its place in this great movement.

TUBERCULOSIS ABSTRACTS

A Review for Physicians

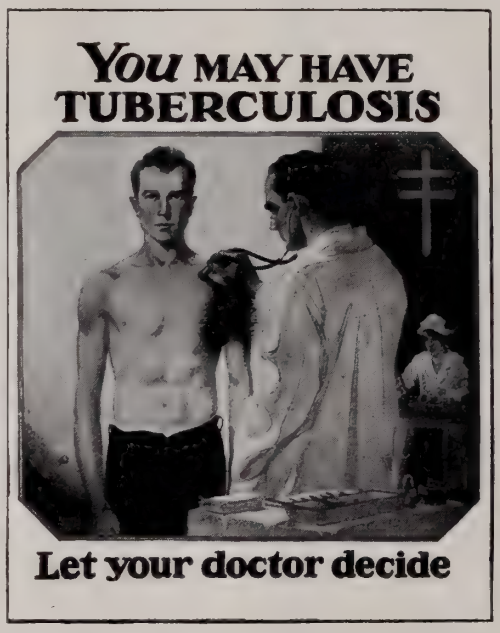
PREPARED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Published through the coöperation of the Pennsylvania Tuberculosis Society and the Medical Society of the State of Pennsylvania

DURING March, 1928, a nation-wide campaign of education to impress on the public the importance of early diagnosis of tuberculosis was launched. Thousands of talks were given and motion pictures were shown in many places. Newspapers and magazines contributed many columns on the subject. Eight thousand billboards and 500,000 smaller posters carried the message, and about ten million pieces of printed matter were prepared for free distribution. In connection with the campaign, numerous articles on the early diagnosis of tuberculosis appeared in national, state, and local medical and health journals. While each of these articles reflects the individuality of the writer, nevertheless it is evident that opinion is almost unanimous concerning the important features of early tuberculosis. Only a few brief gleanings are here presented.

Family History

Opie emphasizes that close contact, such as occurs in the family, is an important item in the history. Children and adults in families of which some member is tuberculous, with sputum containing bacilli, are usually infected with tuberculosis and the infections are often severe. *Henry* believes that well-defined contact, especially in childhood, is a good basis for suspecting tuberculosis. The ideal contact is a baby associating with the mother.



Copy of poster, the original of which, printed in full color, measures 11 x 14 inches.

Fatigue

Hawes lays stress on the constitutional symptoms, most important of which are chronic fatigue, undue fatigue, ease of tire, and loss of strength. *Miller* states that loss of strength is the most outstanding symptom of active pulmonary tuberculosis. *Homan* says fatigue is one of the earliest and most important symptoms.

Hemoptysis

All writers appreciate the significance of hemoptysis. *Bray* classes it as the most suggestive of the local symptoms. The amount of expectorated blood varies from a few drams to several ounces. Copious hemorrhages speak for the more advanced stages. A small amount of blood must be interpreted cautiously because of the difficulty in determining its origin. "A physician who fails to realize the significance of hemoptysis," says *Minor,* "is playing with life."

Gastric Symptoms

Anorexia, nausea, and other functional gastrointestinal derangements, states *Bray,* are not uncommon. They may be the first manifestations and present throughout the course of the disease.

Cough

Homan believes that any cough which persists for more than two or three weeks usually means something more serious than an ordinary cold or bronchitis and should call for careful consideration. *Miller* states that any cough which persists for one month or longer should be thoroughly investigated as to the possibility of its being

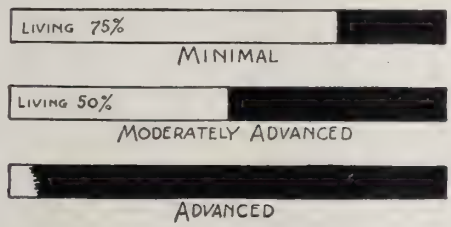
tuberculous in origin. While this is a symptom and complaint common to all respiratory infections, it is particularly so in cases of tuberculosis characterized by a catarrhal onset.

Pleurisy

A history of pleurisy with effusion should always arouse suspicion. It may be agonizing, but more often it is dull-aching in character. It is unilateral and for the most part confined to the base. According to *Homan,* 90 per cent of pleurisies are of tuberculous origin.

Temperature

Afternoon or evening temperature of 99 degrees or over needs explanation, says *Webb,* and the temperature should be studied for at least a week with the patient in bed. One or two readings in the office are not reliable. *Sewall* adds, "when there is a periodic afternoon rise in mouth temperature of one-half degree, increased after exercise, the evidence for tuberculous infection is strengthened; subnormal temperature points in the same direction if to a different phase."



Bardswell analyzed the results of treatment covering 10,000 cases discharged from English sanatoria. Of those diagnosed minimal tuberculosis on entrance, 75% were alive five years later; of the moderately advanced, 50%, and of the advanced, "a small per cent only" were alive. (TUBERCLE, Volume VI, October, 1924.)

Rales

All writers agree that the auscultatory findings are most important. *Otis* places his main reliance upon the findings of persistent fine râles at the apex. They are definitely abnormal and almost pathognomonic of tuberculosis, though not always of active cases. He quotes *McKenzie's* dictum, "The earliest physical sign which is really characteristic is the presence of râles." Râles heard at the base are rarely significant. *Miller* is perhaps most emphatic when he says, "The presence of persistent moderately coarse râles, in fact any type of râles, localized in the upper lobe above the third rib warrants a diagnosis of pulmonary tuberculosis." *Webb* describes the technic of eliciting râles as follows: "The patient should be instructed to breathe in through the mouth, then to breathe out and to give a slight cough with the last part of the outgoing breath. Râles are heard in showers and usually occur after the cough at the time the breath is inspired."

X-Ray

The x-ray helps to confirm the lesions found by physical examination. *Sewall* says a complete x-ray of the chest is indispensable as an objective aid to diagnosis and that its interpretation needs the clinician. *Myers* regards the single flat film as of slight help, and recommends the wider use of stereoscopic films. "The roentgenologist," he adds, "should become familiar with the modern technic." *McPhedran* points out that, in flat films, blood vessels axially radiated cast shadows similar to tuberculous nodules. He advises exposure from different angles and also in series. *Opie* says that radiological examinations are necessary to determine the position and extent of lesions unaccompanied by physical signs. The physician should learn to take part in the interpretation of plates.

Tuberculin Test

The tuberculin test determines infectivity but not necessarily lesions. Its chief value, therefore, is in determining infection in children. However, *Homan* regards it as a useful aid in adults for, in patients with active tuberculosis, the reaction to tuberculin comes earlier and is usually more marked than in the one with a quiescent lesion.

Tubercle Bacilli

Finding bacilli in the sputum offers conclusive evidence of tuberculosis. A single examination is not enough. Repeated failure to find bacilli does not rule out tuberculosis. Says *Bray,* "Guinea pigs develop tuberculosis from being inoculated with sputum from patients where numerous microscopic examinations failed to show the bacilli."

Responsibility of Doctors

Potts, writing of the responsibility of doctor and patient in discovering tuberculosis, divides doctors into two groups. "The first group are on the defensive, defending late-stage diagnosis because it is all they know how to make;.... the second group has a personal feeling of responsibility. They are not fatalists and they are not on the defensive."

THE

MEDICAL SOCIETY OF DELAWARE

THE PRACTICE OF OBSTETRICS IN RURAL SECTIONS*

JOSEPH S. McDANIEL, M.D.
DOVER, DEL.

The physician in the country is called upon to do practice of all types, and must perfect himself in each as best he can. Some recent experiences have impressed upon me the necessity for greater care in obstetrical cases. The expectant mother should be watched more closely; more attention should be given to asepsis at the bedside; the patient should be given plenty of time while in labor, and the process should not be hastened by an artificial stimulant simply because the physician is eager to terminate the case so that he can turn to other work; and the patient should have proper treatment during the puerperal period. It is worth while to review these details because it is easy to become settled in one's own methods for the simple reason that ninety per cent of his cases recover normally.

In the case of a woman who had been in labor for eight or ten hours until she was exhausted, the attending physician had already applied the forceps three times without washing his hands or sterilizing his instruments, before a consultant was called. He had not given any anesthetic, but had given pituitrin twice without results. The patient was unable to deliver herself, not because of any disproportion between mother and child, but because of her exhaustion and cessation of labor pains. Even though the damage was done so far as infection was concerned, the consultant sterilized hands and instruments and gave an anesthetic, and the child was finally delivered. Unfortunately, it was so injured about the head by the first efforts at instrumentation that it died two days later, and the mother developed a septic condition from which she recovered very slowly.

In another case, the attending physician was found sitting beside a woman in labor with a saucer of lard, into which he would dip his fingers once in a while and then insert them into the vagina. This was done, he said, to lubricate the passage and facilitate the delivery of the head. Apparently he did not realize that nature supplies sufficient, and sterile, lubricant in the vaginal secretions and the water from the sac.

In the hospital the physician is blessed with able assistants, competent nurses, clean delivery rooms, and sterile surroundings. But in country practice, where some of the homes are clean, some dirty, and some unfortunately filthy, with no assistance but a practical nurse or midwife, and many times no one but an inexperienced member of the family or a neighbor, treating a woman in confinement takes on a different aspect, and it is very easy to become careless unless constant vigilance is exercised.

The physician usually is engaged for a confinement case about the third or fourth month. As treatment during pregnancy may have an important bearing on the case during and after confinement, this is a very important period. At the first call, a brief family and personal history is taken and recorded. If the patient is a multipara, she is questioned regarding her former labors, for sometimes it is possible to save trouble if a previous condition is known in time. A superficial physicial examination is given, including heart, lungs, and blood pressure, and a urinalysis is made. If her condition is normal, the patient is instructed to return in about a month bringing another specimen of urine. She is advised as to personal hygiene, proper diet, exercise, and clothing, and correction of constipation. The same type of examination should be made monthly, even though everything is found to be normal each time.

About the sixth or seventh month the abdomen is examined, and the position of the child noted by palpation and auscultation of the fetal heart sounds. If these sounds are heard below the umbilicus, it indicates that the head presents, and if they are heard above that line, it is probably a case of breech presentation. It is also well to locate the placenta by listening for the placental souffle. If the child is in an abnormal position, it is possible by manipulation and abdominal belts to change its position to normal before the end of pregnancy or when labor starts.

Measurements of the pelvis should be made, especially in primiparas, to disclose any deformity

*Read before the Medical Society of Delaware, at Delaware State Hospital, Farnhurst, October 12, 1927.

which might interfere with the passage of the child during birth. I use a pelvimeter resembling a pair of calipers. The patient lies upon her back, with abdomen, pelvis, and upper thighs covered by only one thickness of thin linen or muslin. The distance between the anterior superior spines is measured (normally 24 to 26½ cm.), between the outermost crests (normally 28 cm.), and between the trochanters and the femora (normally 32 cm.). These are measures of width at the pelvic brim. The patient is asked to turn slightly upon her right side, raising the left hip. One limb of the pelvimeter is then placed on the posterior superior spine of the left side, the other on the anterior superior spine of the right side. This measurement, the left oblique diagonal, is normally 22 cm. The patient then turns upon the left side, when the pelvimeter is placed upon the right posterior superior and the left anterior spines, thus measuring the right oblique diameter—normally 22½ to 23 cm. The patient should next lie upon the left side with the thighs very slightly flexed or almost extended and the body raised squarely upon the left shoulder, side, hip, and thigh. Passing the fingers down the spinous processes of the vertebræ, the physician comes upon the depression beneath the spine of the last lumbar vertebra. This may also be located by sight, by exposing the posterior surface of the sacral and lumbar regions, when two depressions or dimples will be noticed, one on each side of the line of the spine. If an imaginary line be drawn between them transversely, the spine of the last lumbar vertebra will be found just above the center of this line. The pelvimeter should be placed in the depression beneath this spine, and its other limb on the middle of the pubes in front. This gives the external antero-posterior diameter (normally 20½ cm.)—a very important measurement. The circumference of the pelvis is obtained by placing the patient upon her back and measuring with a tape line around the pelvis just below the crests of the ilium. It should be 85 to 90 cm. At the pelvic outlet, the distance between the tuberosities of the ischia may be measured with the pelvimeter or a tape line by turning the patient upon her side. This distance is ordinarily 11 cm.

The object of these measurements is to ascertain whether the patient may have a narrow, contracted, or deformed pelvis which may prevent free passage of the child at birth. If such a condition is discovered in time, it is possible to place the patient in a hospital where labor can be induced several weeks before the expected time, thereby insuring a safe passage of a smaller child through the birth canal. Or a cesarean section may be done before the mother becomes exhausted by a fruitless labor.

In treatment for toxemia of early or late pregnancy, the most important point is prophylaxis. The patient must be instructed in hygiene, and must be under personal observation by her physician, with physical examination, blood tests, and urinalysis. If these measures are carried out, the toxemia of pregnancy rarely becomes dangerous. When, however, through neglect or otherwise, toxemia becomes acute, the most active measures must be taken to secure prompt elimination. In severe cases with convulsions, from 8 to 20 oz. of blood may be withdrawn and 16 to 32 oz. of normal salt solution injected by the same vein, accompanied by administration of morphin. Gastric lavage with a solution of sodium bicarbonate is sometimes helpful. In pernicious vomiting, feeding by rectum is substituted for feeding by mouth. In the case of one woman, four months pregnant, all these methods produced no results until she was relieved by abortion. In this case, hypodermic injections of corpus luteum were ineffective, although it is often helpful in mild cases of early toxemia.

When called to the home, usually during the first stage of labor, it is necessary first to size up the situation, and then to try to make the patient's surroundings as clean and sterile as possible. Even though she may be lying on dirty newspapers, they can at least be covered with a clean sheet. The nurse, of course, should have seen that such preparations were made, but many of the so-called practical nurses are very careless, and are often the direct cause of some of the sudden jumps of temperature whch so often occur several days after the birth of a child.

There should be plenty of boiling water at hand, and two small tables or even chairs covered with clean muslin. Upon one of these may be placed a bowl of water, and the other may be used for gauze, cotton, instruments, and other necessary articles. It is better to have two bowls if possible, one for scrubbing the hands, and the other for a lysol solution in which to rinse the hands and to soak pledgets of cotton which are used to cleanse the vaginal orifice and perineum.

The nurse should have washed thoroughly with soap and water and wiped with a lysol solution the pubes, perineum, and thighs of the patient. Her pubic hair should be clipped, although this is not possible in every case. Her bowels should be open, and if not, an enema should be given, and her bladder should be empty. This helps to give more room for the passage of the child through the birth canal, and also insures a cleaner field in which to work at the time the child is delivered.

The next step is the vaginal or rectal examination to determine how far advanced the delivery may be. This, of course, is indicated by the degree of dilatation of the cervix and the position of the head. Sterile rubber gloves and a sterile white gown protect not only the patient, but also the physician. Before inserting the fingers into the vagina for examination, a large cotton sponge soaked with the lysol solution should be used to wipe away the secretions and leakage which are always around the vaginal orifice and perineum, in order to obviate the possibility of carrying any foreign matter into the vagina and thus contaminating the uterus. This is done by separating the vulvæ with the index finger and thumb of the left hand, using the right to make one, and only one, wipe downward. A second wipe of the same sponge would simply spread these waste materials over the surface to be cleansed. This procedure should be carried out before each examination. The fewer the examinations, the better it is for the patient, and the less the risk of infecting her. Repeated examinations are not necessary; the progress of labor and the presenting parts should be recognized in two or three examinations. The trend in modern obstetrics is to substitute rectal for vaginal examination.

After the first examination, if there is only slight dilatation of the cervix and the patient is under intelligent care, the physician's presence is rarely needed until the membranes rupture or the real expulsive pains start. During this stage, a little nourishment of the most nutritious and digestible character may be taken, in many cases excluding milk. Tea or coffee may be given in moderation. Vomiting may occur, but this is usually a sign of a short and speedy labor. The patient should be encouraged to be up and about as much as possible during the first stage to aid in the descent of the presenting part and also to divert her attention. She should be made as comfortable as possible, and her surroundings should be as cheerful as circumstances permit. If she does lie down, she should lie on the side toward which the fetal back is directed, with the lower limbs partly flexed. This facilitates the descent of the presenting part and its rotation.

During the second stage, which starts when the cervix is completely dilated, the pains increase in severity, and patients usually demand anesthesia to mitigate their suffering. It is unwise to use an anesthetic unless labor is so far advanced that, if necessary, the obstetrician can terminate it immediately by forceps. If the patient desires that some one grasp her hand or rub her back during this period, it is allowed, but the abdomen and uterus should not be massaged under normal conditions.

As the fetus descends, the uterus will grow smaller and the abdomen and fundus project forward. Corresponding with the alternating character of the pains, the presenting part will advance and recede, thus avoiding continuous pressure upon the maternal parts. When this phenomenon of alternating advance and recession are absent, the condition becomes pathologic, and may demand active interference. When the head reaches the pelvic floor, the use of ether or chloroform well diluted with air is indicted. The anesthetic should be given only during the most severe pains, and should not be commenced until considerable dilatation is present. By using ether at the summit of the pain, the patient's suffering is lessened without checking the progress of labor.

As the moment of expulsion approaches, care must be taken to prevent laceration of the perineum and pelvic floor, of which the most important portion is the levator ani muscle, whose anterior border marks the anterior limit of the pelvic floor. The posterior vaginal wall and the fourchette are composed of elastic tissue which will tear readily, and whose integrity is not indispensable for the patient's health. In fact, a tear through this tissue to the edge of the muscle, provided it be clean-cut and in the center line, is not of primary importance. If, however, the fascia which attaches the levator ani muscle in its various branches to the pelvis be injured, prolapse of the genital organs is very likely to develop. Therefore, the head should be directed moderately forward toward the pubes to prevent the exercise of undue force upon the perineum and the pelvic floor. This may be done by the use of a piece of sterile gauze between the hand and the perineum. I prefer to deliver a patient on her back, although many obstetricians prefer that she be on her side with the thighs flexed. It is often possible, when the head is well in the vulva, with rapid anesthesia, sufficient to make her completely unconscious for the moment, to retract the pelvic floor and perineum over the child's face and prevent a tear.

The interval occurring between the expulsion of the head and shoulders should be utilized by the nurse in thoroughly but gently wiping the region of the child's eyes with soft gauze dipped in boric-acid solution. The mouth should also be cleansed and care taken not to wound the mucous membrane. After delivery, the child should immediately be placed upon its right side and in such a position that it will not inspire blood or amniotic liquid ejected by the mother. The cord should be taken between the thumb and

finger and its pulsations felt, and it should not be tied and cut until it has ceased to beat. This delay gains several ounces of blood for the child.

Too much importance cannot be ascribed to the necessity of giving the mother a period of complete rest, varying from fifteen to twenty-five minutes, immediately after the birth of the child. Her head should be low, and she should be warmly covered.

After the cord has been tied and cut, the patient enters the third stage of labor. If she does not expel the placenta after fifteen or twenty minutes, she may be helped. I prefer the Credé method. Following expulsion of the afterbirth, I always give one or two drams of fluid extract of ergot by mouth, or ergotin hypodermically. A close examination of the placenta and membranes is very important, to insure that no part is missing.

After a brief rest, the nurse cleanses the patient, applies a firm abdominal binder, and arranges the bed. It is my custom to give ergot and strychnin every four hours for the first two or three days. The nurse is instructed not to use any vaginal douches whatever, but simply to cleanse the external genitalia by separating the vulva with one hand and using a pitcher to pour warm lysol solution over the parts. Several drops of argyrol or silver nitrate solution are instilled into the baby's eyes.

The baby is placed at the breast about six or eight hours after delivery, and thereafter every three hours. The nurse should always wipe the baby's mouth with a pledget of cotton soaked in boric acid solution, and also give the mother's nipples the same treatment before each nursing.

One of the most common abnormal conditions met with in general practice is the posterior rotation of the occiput. In spontaneous labor, the anterior rotation of the occiput depends on the normal relation between the fetus and pelvis, flexion of the fetal head, normal expulsive forces in the uterus and abdominal muscles, and the normal resisting power of the pelvic floor. If any of these factors are entirely wanting, or if several of them are deficient, the occiput may turn posteriorly.

The most frequent backward turning of the occiput is toward the right. At the beginning of labor the head may be transversely at the pelvic brim. If the pelvis be somewhat larger than the head, the latter may descend transversely through the pelvic brim and come upon the pelvic floor in transverse position. If flexion be imperfect, the head may become firmly fixed upon the pelvic floor in a transverse position, and if the elasticity and muscular strength of the pelvic floor be lacking, the head may gradually sag backward until it stands obliquely, with the occiput behind, or with the occiput completely under the promontory of the sacrum.

The diagnosis of posterior rotation of the occiput is usually made by vaginal examination. When the head stands transversely, the saggital suture extends transversely. At one of its extremities is the anterior and at the other the posterior fontanelle. It is rare to find both of these available to touch, but usually the posterior can be detected. As posterior rotation occurs, the occiput recedes from the pubes and the anterior fontanelle can be distinguished behind the pubes. In this position the labor is longer, more painful, and more exhausting than normal. The risk to the mother arises from exhaustion and from the infection which may occur in any prolonged labor with repeated vaginal examination and instrumental delivery. The child is also exposed to the danger of inspiration pneumonia and the great pressure upon it. For these reasons accurate diagnosis is important.

If the occiput is beginning to rotate posteriorly, the mother should be placed upon the side toward which the fetal back is directed, flexing the thighs upon the pelvis. This method is of service when the anterior rotation of the head is slow, and labor may at times be quickly terminated by this procedure.

In primiparous patients, the membranes should be preserved as long as possible, and in multiparous patients until dilatation is three-fourths complete, as a prophylactic treatment for posterior rotation. The active treatment of occipitoposterior position consists of attempts to rotate the head with a gloved hand under anesthetic or to deliver as an occipito-anterior with forceps, when considerable laceration is inevitable.

Placenta previa is seldom met with. In two of my cases, with the patient under an anesthetic, I cautiously dilated the cervix, passed my fingers through the placental substance, and, catching a foot, turned the fetus around and brought the breech downward until it entered the pelvic brim, and held it there until the pressure had controlled the hemorrhage. Shortly afterwards, the child was delivered very slowly and the torn placenta expressed, the womb irrigated with a one-per-cent lysol solution, and the uterus packed with ten-per-cent iodoform gauze. Both of these patients were multiparas. The children and mothers recovered without interruption.

Prophylaxis is the best treatment for puerperal septicemia, and one cannot be too careful in handling a confinement case. Improved methods of asepsis have helped to reduce the incidence of this serious complication, but it does occur

occasionally even though sterilization has been most thorough. The resistance of the patient is the principal factor in the prognosis, with the nursing a close second. The management includes bathing, stimulation when necessary, irrigations, blood tonics, etc. In one case in which everything else failed, as a last resort I used a streptococcic serovaccine with amazing results. The temperature dropped immediately after each injection, and complete recovery ensued. This woman has since borne a normal child.

An interesting case in which I was called to administer the anesthetic was that of a breech presentation in a primapara who was delivered without laceration. She was doing well for two or three days, when she developed a slight rise of temperature, rapid pulse, considerable hemorrhage, constant pain across the abdomen, and was very restless. There was a very large soft mass in the lower abdomen, extending as high as the umbilicus. Alongside of this mass and apparently connected with it was a very hard tumor which extended as far to the side as the crest of the ilium. The temperature was 100°, pulse 120, and there was considerable bleeding, and tenderness over the abdomen which prevented adequate palpation. The nurse stated that the patient was passing a little urine occasionally, but with much difficulty and pain. The possibilities considered were enlargement of the uterus by filling with blood clots, hematoma between the broad ligaments, or rupture of the uterus. A catheter was passed, and over a quart of urine was obtained. The swelling in the middle lower abdomen disappeared, and the hard mass near the crest of the ilium made by the uterus returned to its proper place. The temperature and pulse rate dropped to normal, and the patient had no more trouble. The catheter undoubtedly saved the woman a trip to the hospital.

Medical News

Deaths

Lily H. Lovett, wife of Dr. Henry Lovett, of Langhorne; April 23.

Mrs. Sankey, wife of Dr. Brant E. Sankey, of New Castle; recently.

Jonathan T. Ridge, M.D., of Philadelphia; Hahnemann Medical College, 1882; aged 71; May 12.

Charles D. Carr, M.D., of Philadelphia; Jefferson Medical College, 1888; aged 64; January 31, of myocarditis.

John J. Carroll, M.D., of Scranton; College of Physicians and Surgeons, Baltimore, Md., 1883; aged 70; August 7, 1927.

Lee E. McCartney, M.D., of Coraopolis; University of Pittsburgh School of Medicine, 1924; aged 32; April 17, of pneumonia.

George M. Kinner, M.D., of North Mehoopany; University of Pennsylvania School of Medicine, 1895; aged 56; April 24, of pneumonia.

Byron J. Reemsnyder, M.D., of Ephrata; University of Pennsylvania School of Medicine, 1874; aged 74; May 11, of uremic poisoning.

Patrick J. Higgins, M.D., of Wilkes-Barre; Bellevue Hospital Medical College, New York, 1879; aged 76; April 3, of bronchopneumonia.

Samuel T. Gilbert, M.D., of Jonestown (formerly of Philadelphia); Hahnemann Medical College, 1879; May 6.

Walter S. MacFadyen, M.D., of Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1893; aged 56; March 26, of pneumonia.

Andrew J. McLaughlin, M.D., of York; Jefferson Medical College, 1872; at one time superintendent of the State Hospital at Danville; aged 80; May 9.

Robert M. Sands, M.D., of Pittsburgh; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, Md., 1883; May 10.

Mr. George F. Harvey, founder and president of the National Drug Company of Philadelphia, died on April 26 at his Edge Hill residence in his 85th year.

James W. Mitchell, M.D., of Lewistown; Medico-Chirurgical College, 1898; member of the State Legislature in 1920 and 1921; aged 58; April 30, from a heart attack.

Lewis S. Somers, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1892; director of the Stetson Hospital; aged 57; May 13, after an illness of more than a year.

Dorothy Q. Owen, daughter of Dr. and Mrs. Hubley R. Owen, of Philadelphia; aged 20; May 8. Miss Owen was thrown by her horse and was found unconscious from a fractured skull and concussion of the brain.

Joseph L. Gallagher, M.D., of Steelton; University of Pennsylvania School of Medicine, 1894; enlisted in the World War and served more than a year in the base hospitals in France; aged 60; May 7, from a heart attack.

Anna M. Reynolds, M.D.; Woman's Medical College, 1885; aged 82; April 20, at Los Angeles, Calif. Dr. Reynolds at one time lived at Linwood, Pa., and was one of the pioneer woman physicians of Philadelphia.

Jean Paul Dixon, M.D., of Philadelphia; Johns Hopkins University School of Medicine, Baltimore, 1925; recently completed his internship at the Pennsylvania Hospital; aged 25; May 15, when he was run down by a trolley car.

William T. Graham, M.D., of Sunbury; Jefferson Medical College, 1889; appointed chief surgeon for the Pennsylvania Railroad at Sunbury in 1893; on the staff of the Mary M. Packer Hospital; aged 65; May 2, of bronchopneumonia.

Thomas R. Kendrick, Jr., M.D., of Pittsburgh; University of Pittsburgh School of Medicine, 1921; formerly on the staff of the Tuberculosis League Hospital; aged 34; April 16, at the Magee Hospital of acute myelogenous leukemia and cerebral hemorrhage.

Alfred Heineberg, M.D., of Philadelphia; Philadelphia College of Pharmacy, 1899; Jefferson Medical College, 1902; associate in the gynecologic department of Jefferson Medical College, and a member of the staffs of St. Agnes and Philadelphia Hospitals; aged 50; May 13, after a long illness.

Dr. Hideyo Noguchi, of the Rockefeller Institute for Medical Research, discoverer of the source of South American yellow fever in 1916, died at Accra, West

Africa, May 21, aged 51 years. Dr. Noguchi had headed an expedition into Africa in an attempt to discover the relation between South American and African yellow fever. He had just completed his work and was preparing to sail for America when he was stricken with the disease. He was the recipient of many honorary degrees and decorations, and was accounted one of the most eminent bacteriologists of all time.

Erratum.—In the May issue, this Journal incorrectly reported the death of Dr. M. Jane Sands, professor of physiology at the Woman's Medical College, Philadelphia. We greatly regret the error.

Births

To Dr. and Mrs. H. B. Corrigan, of Reading, a son, April 20.

To Mr. and Mrs. R. E. Roberts, of Haverford, a son, May 8. Mrs. Roberts is the daughter of Dr. and Mrs. Henry F. Page, of Philadelphia.

Engagements

Miss Helene Balentine and Dr. Robert R. Schultz, both of Scranton.

Miss Agnes McComb, of Wilmington, Del., and Dr. Robert A. Kimbrough, Jr., of Philadelphia.

Miss Suzanne Wister, daughter of Dr. and Mrs. James W. Wister, of Philadelphia, and Mr. Stephen Fuguet, of Devon.

Miss Elinar Smith, daughter of Dr. and Mrs. A. W. Smith, of Scranton, and Mr. Phillip Francis Roan, of Fort Madison, Iowa.

Miss Henrietta Barnet Heddens, a daughter of Dr. and Mrs. James Weir Heddens, of Pasadena, Calif., and Mr. Kennedy Hamill, son of Dr. and Mrs. Samuel McClintock Hamill, of Philadelphia.

Miss Elizabeth St. John Kelley, daughter of Dr. and Mrs. John S. Kelley, of Binghamton, N. Y., and Mr. Mackinnon Ellis, son of Dr. and Mrs. William T. Ellis, of Swarthmore. Mr. Ellis will graduate this month from the Medical School of the University of Pennsylvania.

Marriages

Miss Margaret Grace Musser to Dr. Clyde Leslie Mattas, of Scranton, April 17.

Miss Zena J. Blanc to Dr. Samuel A. Loewenberg, both of Philadelphia, May 19.

Miss Martha Ruth Vollrath to Dr. John Howard Esbenshade, of Lancaster, April 17.

Miss Dora Siegel, of Trenton, N. J., to Dr. Morton Reese Cohen, of Philadelphia, March 4.

Miss Miriam Freeman, of Plymouth, to Dr. Julian Sax Long, son of Dr. and Mrs. Charles Long, of Wilkes-Barre, April 2.

Miss Mildred Beckett Mote, of Woodbury, N. J., to Mr. Edmund Harris Kase, Jr., son of Dr. and Mrs. Edmund H. Kase, of Philadelphia, June 12.

Miss Lucy Gatewood Waldo, of Kansas City, Mo., to Dr. William Osler Abbott, son of Dr. and Mrs. Alexander C. Abbott, of Philadelphia, June 7.

Miscellaneous

Dr. James Collins, of Bristol, is on a tour around the world.

Dr. James D. Beach, of Williamsport, has been seriously ill at his home.

Mrs. W. T. Davis, wife of Dr. Davis, of Scranton, is recuperating from a recent operation.

Dr. C. J. Zinn has been appointed chief resident physician to the Reading Hospital for the year 1928-29.

Dr. Ellwood R. Kirby, of Philadelphia, has been appointed consulting surgeon of the Philadelphia General Hospital.

Mrs. John J. Price, wife of Dr. Price, of Olyphant, is recovering after an operation at the Mercy Hospital, Scranton.

Dr. and Mrs. E. A. Nicodemus, of Harrisburg, celebrated their twenty-fifth wedding anniversary on April 27 with an informal dinner.

Dr. Albert H. Bucher, of Harrisburg, is spending four months at the Harvard Medical School, taking a postgraduate course in surgery.

Dr. Richard Travis has been appointed assistant to Drs. J. E. Livingood and E. G. Meter in the x-ray department at the Reading Hospital.

Dr. W. E. Delaney, Jr., of Williamsport, has been appointed surgeon to the New York Central Railroad, succeeding the late Dr. M. L. Raemore.

Dr. James W. Kennedy, of Philadelphia, addressed the Bucks County Medical Society at its May meeting in Bristol on "Abdominal and Pelvic Emergencies."

Miss Clara Brunner, superintendent of nurses at the Grand View Hospital, Sellersville, has resigned and will spend the summer on an educational tour of Europe.

The Eastern Pennsylvania Chapter of American Bacteriologists met at Jefferson Medical College on the evening of May 22. Dr. Claude P. Brown presided.

Dr. and Mrs. Charles A. O'Reilly, of Philadelphia, have returned from a three-months' cruise of South America, which included Brazil, Argentina, and Uruguay.

Dr. John W. Cox, of Alexandria, Va., assumed the duties of field representative of the American Society for the Control of Cancer on March 1, sharing that title with Dr. R. V. Brokaw.

Dr. R. J. Henderson is now in full-time attendance at the physiotherapy clinics of the Reading Hospital where he will take care of both private and ward patients.

Dr. Hugh Young, of Baltimore, Md., addressed the 22d annual meeting of the Mount Carmel Medical Society on April 10. He discussed prostatic disease and intravenous medication.

Dr. and Mrs. R. L. Perkins, of Harrisburg, left the early part of May for Europe. They took their car with them and will spend several months touring France and the British Isles by motor.

Dr. and Mrs. George W. Kehl, of Reading, will sail on the *Leviathan*, June 16, for a trip abroad. They will remain for about nine weeks, visiting France, Switzerland, Italy, Germany, Holland, and England.

St. Joseph's Hospital, Reading, inaugurated its own ambulance service on May 1. The ambulance, a custom-built Packard-eight, was presented through the generosity of the Rosedale Knitting Mills and the Liberty Dye Works.

The Streeter collection of rare medical books has been bought by the New York Academy of Medicine from Dr. A. S. W. Rosenbach, Philadelphia book collector, for $185,000. The books will be put on exhibition at the Academy in the fall.

Dr. James J. Durrett, of Memphis, Tenn., has been appointed to succeed Dr. George W. Hoover in charge of drug control in the Food, Drug, and Insecticide Administration, according to a recent announcement by the United States Department of Agriculture.

The annual meeting of the American Association for the Study of Goiter will be held at Denver, Colo., June 18, 19, and 20. The scientific sessions will be held in Medical Hall, 1620 Court Place, and the Cosmopolitan Hotel will be the convention headquarters.

THE WILLIAM POTTER MEMORIAL LECTURE was given by Sir St. Clair Thomson, M.D., past president of the Medical Society and of the Royal Society of London, on "The Strenuous Life of a Physician in the Eighteenth Century," at the Jefferson Hospital Annex, Philadelphia, April 25.

DR. M. EDITH MACBRIDE, of Sharon, who has been secretary-reporter for the Mercer County Medical Society for a number of years, was recently presented with a typewiter by the members of that society as an evidence of their appreciation of her continuous devotion to the duties of her position.

DR. HANS ZINSSER, professor of bacteriology and immunology of the School of Medicine, Harvard University, delivered the Thirteenth Mellon Lecture of the Society for Biological Research, School of Medicine, University of Pittsburgh, on May 10. His subject was "The Present State of Our Knowledge Regarding Epidemic Encephalitis."

THE AMERICAN ASSOCIATION for the Study of the Feebleminded held its annual meeting in Atlantic City, May 31 to June 2 inclusive, with headquarters at Haddon Hall. The meeting was designed to emphasize numerous practical aspects of the problem concerning the feebleminded, and speakers of national repute presented papers on a variety of these aspects.

A GENERAL PRACTITIONER desires to locate in western Pennsylvania. He would consider a small manufacturing town of about two or three thousand people, or a prosperous rural community where he could make a good living in general practice and perhaps do school or public-health work, in which line of work he has had a great deal of training and experience. Information regarding such an opening should be sent in care of the JOURNAL.

THE CORNERSTONE OF THE Children's Heart Hospital, Philadelphia, was laid on May 2 with impressive ceremonies by the Grand Lodge of Masons of Pennsylvania. The hospital, when completed, will have 200 beds. The children will be carefully nursed back to normality without regard to sect or race. None of the beds will be for private cases. All will be treated equally, and none will be asked to pay. Dr. Wilmer Krusen was the chief speaker at the exercises.

DR. AND MRS. SAMUEL Z. SHOPE, of Philadelphia, sailed for England in May to be present at the unveiling on May 30 of the Memorial Gateway and Tablet which the National Society of United States Daughters of 1812 has erected at the American cemetery there. Mrs. Shope, who is the national president of the society, delivered the dedicatory and presentation address, and Dr. Shope brought greetings from the Sons of the War of 1812 and other American patriotic societies of which he is a member.

ON MAY 12, a large gathering of physicians from Pennsylvania and other states attended a testimonial dinner given to Dr. George A. Knowles at the Union League, Philadelphia, in recognition of his legislative work, in which activity he has shown an unselfish devotion to the welfare of the public and the medical profession. The speakers were Mayor Harry A. Mackey; Drs. Arthur C. Morgan and Thomas G. Simonton, respectively president and president-elect of the State Medical Society, and Drs. Barton Cooke Hirst, Jay F. Schamberg, and Martin E. Rehfuss. Dr. Knowles was presented with a hall clock.

IT WAS ANNOUNCED MAY 13, that the influence of health and disease on the progress of the American people from the decade after the Mayflower landed to the present is to be the object of research by the American Historical Association. The task will be undertaken by Dr. Richard H. Shryock of Duke University, Durham, N. C., first research scholar selected under the Beveridge Memorial Fund of $50,000 founded by Mrs. Albert J. Beveridge, widow of the Indiana senator. According to the Association, the study will be the first of its kind ever made. The studies will center largely in Washington, D. C., and Philadelphia.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

THE SURGICAL CLINICS OF NORTH AMERICA. Volume 8, Number 1 (Lahey Clinic Number—February, 1928.) 210 pages with 74 illustrations. Per clinic year, paper, $12; cloth, $16 net. W. B. Saunders Company, Philadelphia and London.

The February edition of the Surgical Clinics of North America is a presentation of cases from the Lahey Clinic of Boston. Surgery, anesthesia, medicine, and pathology, by nine various authors, are presented in a delightful manner. This is an unusually practical book. It is well written, and well illustrated. Thyroid surgery is especially well represented in numerous cases. On the whole, the book is well worth the time devoted to its careful perusal.

LOCAL ANESTHESIA. By Geza de Takáts, M.D., Assistant Professor of Surgery, Northwestern University, School of Medicine, Chicago, Ill., with an introduction by Allen B. Kanavel, M.D., Professor of Surgery, Northwestern University, Medical School. Octavo of 221 pages with 117 illustrations. Cloth, $4. Philadelphia and London: W. B. Saunders Company, 1928.

In this little volume will be found in proper sequence the various regions of the body that may be operated upon by means of local anesthesia. It is a fine book for beginners who wish to learn in a concise way the proper use of this method in performing painless surgical operations. Due space is given to the contraindications which should be more closely followed to prevent the so-called "vocal anesthesias."

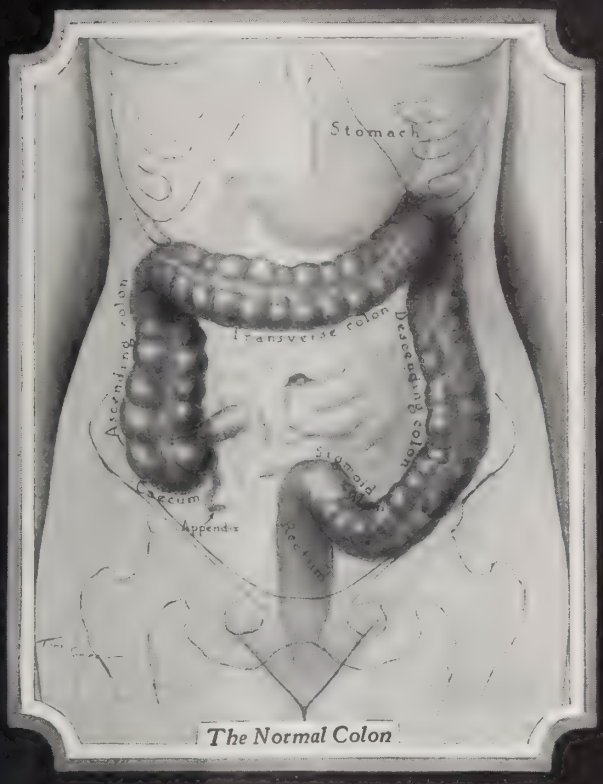
This book will in all probability make many converts of those who rely solely on general narcosis in their surgical procedures.

NEOPLASTIC DISEASES. By James Ewing, A.M., M.D., ScD., Professor of Pathology at Cornell University Medical College. Third edition. 1,127 pages with 546 illustrations. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, $14 net.

It is with a hearty welcome that all of those interested in the problems of oncology receive this third edition of a work now recognized as the standard text in the English language. To keep up to date a book of this magnitude, dealing with controversial subjects to which additions are constantly being made, is a task that few would be inclined to undertake, and Dr. Ewing is to be congratulated upon his success in doing it, and doing it so well.

It is naturally impossible for any one man to read, digest, and utilize all of the literature of a subject so vast, so that omissions must be unavoidable, and in looking over the new edition we find that a few matters which seem important have been missed. Among them is the opinion of Arrou, Fredet, and Demorest that branchial cysts and fistulæ have their origin in vestiges of the precervical sinus rather than from the branchial clefts as formerly supposed by Cusset and quoted by Dr. Ewing. In the section on diseases of the breast, it seems as though some mention of the differing microscopic appearances of the organ corresponding with its menstrual cycle as worked out by Rosenberg, and with its pregnancy and lactation cycles as found by McFarland, might have been mentioned with advantage. In the light of those observations, some of Dr. Ewing's

(Concluded on page xviii.)



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BOOK REVIEWS

(Concluded from page 706.)

illustrations might be differently interpreted. Carcinoids of the vermiform appendix and their possible nervous origin and classification as "argentaffine tumors" by Masson might also have been considered. Lastly, it seems unfortunate that the matter upon the mixed tumors of the salivary glands was not amplified by the mention of McFarland's publication on 90 new cases, in all of which the postoperative history was traced, and in which some new light upon the prognosis of such tumors is given.

BEDSIDE DIAGNOSIS. By American Authors. Edited by George Blumer, M.D., Clinical Professor of Medicine, Yale University, School of Medicine. Three octavo volumes, totaling 2,820 pages, containing 890 illustrations. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, $30 a set. Separate desk index volume free.

This work is of practical importance to every physician and surgeon, as it deals with the fundamentals of diagnosis, without which no true case can be charted. The book is well balanced in consideration of subjects from a pathologic and clinical standpoint. It is compiled in a delightful, readable manner, is well and freely illustrated, and statements made can be accepted as authoritative. There is a specially good section on food intoxications and nutritive disorders. The section on neurology is very well presented.

A single index for each volume with a separate cross-index makes the work quite accessible for quick reference.

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THE NATURE OF OBESITY*

L. H. NEWBURGH, M.D.
ANN ARBOR, MICH.

A recent editorial in the *Journal of the American Medical Association* stated:

There is no doubt that obesity is frequently the result of overnutrition, particularly when this is combined with lack of muscular exercise. This simple hypothesis of a favorable balance of food intake over energy output is not convincing, however, as a universal explanation. At any rate, it does not make clear why some persons..... seem to gain despite an apparently moderate regimen. Furthermore, in many instances obesity seems to have an hereditary background as though there were a constitutional predisposition as well as the consequence of liberality in diet. Indeed, a distinction is sometimes drawn between so-called exogenous obesity—attributed to inactivity and overfeeding—and an endogenous or constitutional type for which a variety of physiologic or pathologic functions have been held responsible.

I want to take exception to the view expressed in the *Journal,* and to present evidence that obesity is due to one reason and one alone—that the subject takes in more than is used up, regardless of any disease or any inherited tendency which may be present. The following case history is offered as an illustration. This patient was chosen because she presented a very striking example of endocrine disease. She was studied very carefully, and her weight was found to be entirely governable by diet.

The patient entered the hospital May 19, 1927, for the relief of a painful toe. The surgeon found osteomyelitis of one of the bones of the toe, and removed the bone. She was then transferred to us for the treatment of obesity because the surgeon felt that the toe would not heal if she attempted to bear her great weight upon it. She came under our care on June 16th, and the following history was obtained from the patient and her mother:

She was fourteen years old. Up to the age of two and a half years, when she had a fever of several weeks' duration, she had been normal in every respect. Following this illness, she became mentally backward, could not talk, and was irritable and very difficult to manage. At the same time she began to grow at an unusually rapid rate, so that she shortly outdistanced other children of her age. Her mental backwardness was very marked for the next four or five years, and her excessive physical development had continued up to the time of examination. She began school when she was five or six years old, and progressed to the third grade without delay, but she remained in the third grade three years, and in the fourth grade three or four years. She had spent the past school year in the fifth grade, and was promoted to the sixth. She was accordingly four years behind the average school girl of her age.

Her appetite had always been excellent, and she had eaten more than her relatives and friends. She had always eaten between meals. During the years when her school work was so poor she lived with her grandfather, who conducted a butcher shop, and who encouraged her to eat a great deal. He always gave her cold meat when she came home from school in the afternoon, and she was accustomed to eating bread and butter, candy, and ice cream between meals.

She had early shown an aversion to physical exertion, which increased as she grew. As a result, she did not join the other children in their games, but instead remained at home and either sewed in a desultory fashion or did nothing at all. This had been her life up to a year ago, when she reached a weight of 280 pounds. Since, then, she had been living with her father, who restricted her food intake. During the past year she had lost about forty pounds.

The patient began menstruating at the age of ten, and reported that she had flowed regularly at 28-day intervals ever since.

Physical examination showed a very large, fat girl whose facial outline and expression were normal. The tongue was strikingly blunt, broad, and thick. The breasts were fully developed. The abdominal wall had an extremely thick panniculus which spread over the flanks when the patient lay on her back. Abundant axillary and pubic hair was present. The skin over the flanks and thighs showed many lineæ albicantes.

This girl appeared to be a very striking example of gigantism due to injury of the pituitary body brought about by an infection which involved the brain at the age of two and a half years, producing irritation of the pituitary which caused an inordinate growth of the bony skeleton and early sexual development and precocity. She was fully matured at the age of ten. The refinements of diagnosis need not concern us. It is obvious that this is an example of endocrine disease with a huge increase in the adipose tissue.

A girl weighing 280 pounds has that enormous weight because she has suffered for a long time from some endocrine disturbance, according to the current teaching. Our contention is that, in spite of this situation, her excessive weight is

*Read before the General Meeting of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

entirely due to the unused calories which she consumed; that she would have weighed just as much if she had not had the endocrine disease provided she had taken as many more calories than she used. The disease may have caused her to crave the extra calories, but having once established the condition, it had no further effect upon her increase in weight.

While under our care, the patient was weighed in the morning, stripped, before breakfast, after emptying the bladder, and the weight recorded each day. During the first period after she came to us she was permitted to eat just what she chose, and a record was kept of the number of calories consumed. During the first three days she averaged 2,850 calories a day, and gained weight. Then she was told by another patient that if she was there for the management of obesity she was wasting her time and should eat less. For the next few days she took only 1,540 calories a day and lost weight very nicely. Then she tired of this and gave little thought to the amount she consumed. She took on an average 2,210 calories a day, and her weight was practically stable for a number of days. In other words, approximately 2,200 calories was what she needed under hospital conditions at this time to maintain her weight. At this point she was put on a diet containing 1,500 calories, for the purpose of learning what would happen if she received fewer calories than she needed. She lost weight during this period.

The amount of weight that a patient should lose under controlled conditions can be calculated. If the patient is receiving sufficient protein to prevent protein loss from the body, after a few days of undernutrition the glycogen stores of the body are depleted to a level at which they will stay until some other change is made. From then on the patient lives on the diet plus body fat. If, for instance, the diet is 800 calories short of her requirements, after the first few days that 800 calories will be derived entirely from body fat. Body fat yields something over 8 calories per gram, so that when the calorie deficit is known, the amount of fat which is needed to satisfy that deficit can be calculated. If a patient needs 2,200 calories and she is fed 1,500 calories, she will consume from her body fat enough to yield 700 calories.

Further observation indicated that the requirement of our patient was perhaps closer to 2,300 than 2,200, so her caloric deficit was calculated on the basis of 800. She actually lost weight during this period at the rate of 120 grams per day. As the theoretical loss by the method stated above would be only 95 grams per day, the patient was losing, not too little, as the *Journal of the American Medical Association* predicts under such circumstances, but too much. She lost more than we could explain.

The peculiar manner of losing weight, by steps, is of interest. Chart 1 shows the drop caused by the extra utilization of the body glycogen, when the patient lost 95 grams a day. Then for a number of days she lost nothing. It is this peculiar response which is confusing. If it occurs early in a case on a reduction diet, it is very natural to conclude that there is some mysterious condition which prevents decrease of weight.

About the forty-fifth day our patient was put on 1,000 calories, and she lost weight at a much more rapid rate. The deficit was 1,300 calories per day, and her theoretical loss was 150 grams, but her actual loss was much greater. It was difficult to understand why she lost so rapidly. In order to check up the assumption that 2,300 calories was her maintenance requirement, she was given this amount. Chart 1 shows the replacement of the glycogen which she had previously used up, followed by maintenance of weight. Then she was given 2,500 calories, which, although only a slight increase over the previous diet, caused a slight increase in weight.

Attention is called to another point of interest. The patient's basal calories were 1,825. It has been said that the obese need less energy for work than others, and therefore gain in that way. In this case there was a difference of about 500 calories between her basal and her total requirements—an increase of approximately 25 per cent. The literature which deals with the amount of energy utilized in different kinds of life states that a patient in bed in a hospital needs from 10 to 20 per cent over the basal requirement. This patient needed more than the highest estimate. Since she is larger and every time she moves she has more to lift, it is only reasonable to suppose that this explains the difference.

Chart 2 presents another case in which the total daily calorie requirement under conditions at the hospital was 2,300. Throughout the entire period the patient was fed 1,450 calories. She ought, therefore, to have lost weight from the beginning at the rate of 105 grams daily. In the first period of 13 days she should have lost 1,365 grams, but she actually lost only 225 grams. This is a striking phenomenon and it occurs over and over again, yet the literature on the subject stops at that point. When a patient is put on a reduction diet for ten days or two weeks and does not lose weight, an observer naturally assumes that the obesity is of a type which is not due to excess of food. If, however,

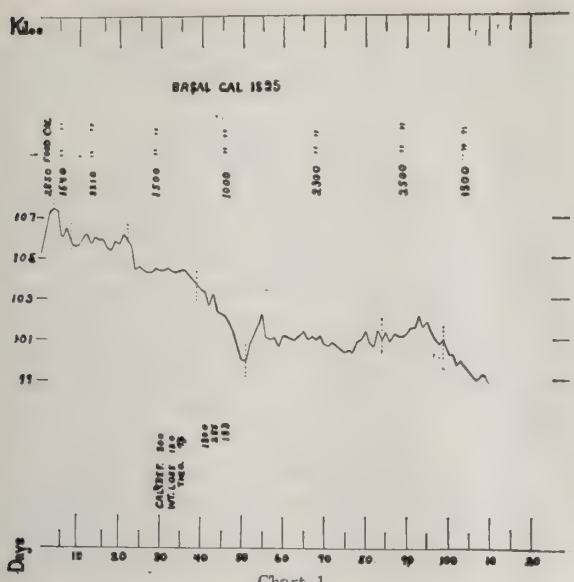

Chart 1

the diet is continued and the patient weighed for another period, loss of weight does occur. In chart 2 the entire time represented is 40 days. During the second period of 27 days the weight lost was not only what it should have been, but the extra amount saved in the early period was also lost. The theoretical loss during these 27 days would have been 2,835 grams, but the actual loss was 4,000. During the 40-day period the theoretical loss would be 4,200 and the actual loss was 4,225—practically the same. This justifies the view that the weight is controlled entirely by the calories; but it still remains, of course, to explain why there was no loss during the early days of the diet.

If the intake and output of water are measured, it is found that during the period of maintenance of weight, water is retained equal in weight to the fat burned up. The weight does not decrease even though fat is lost. From then on the loss of water is greater than the intake until the water balance is reached. The phenomenon, therefore, which has been reported over and over again and which has caused so much confusion, is apparently nothing more than a period of edema, using that word broadly, followed by a period of dehydration. Why the tissues act that way is not understood at present,

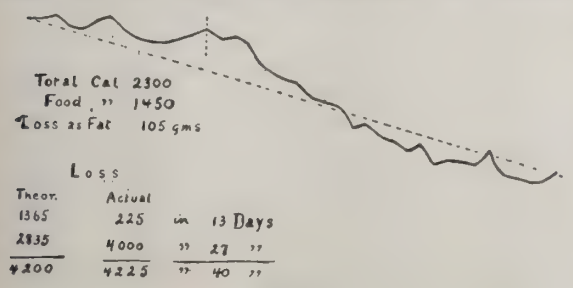

Chart 2

but there seems to be no question about the fact.

Chart 3 shows part of the record of a student at the University who had been fat all her life. Her parents worried about her obesity when she was a child, and as soon as she became interested in her figure she was concerned about the matter. She had a variety of indifferent treatments in a number of places, and she really believed that she had been on a restricted diet for a long time. She had gone to a dietitian and believed that she learned how to restrict her diet, but she had not. She had been treated in the out-patient department of our hospital for one year, but lost no weight, though both she and the members of that department believed that she was living on a diet of 1,200 calories. As she did not lose, she came into the wards. She was offered whatever she cared to take, with the understanding that she would eat 1,200 calories. As a matter of fact she ate almost twice that. She simply did not know enough about dietetics to do the thing right.

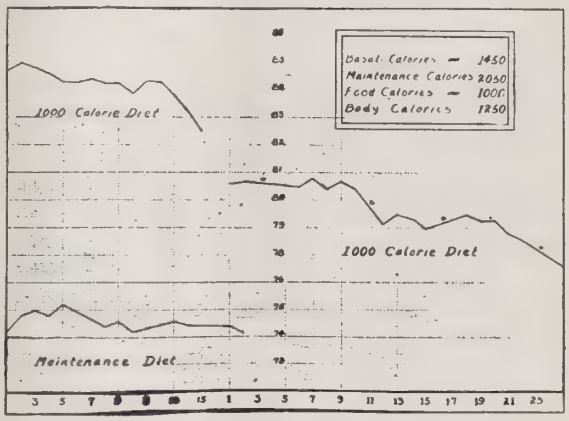

Chart 3

A somewhat interesting failure to lose weight for a long period was noted in her case. Her basal calories were 1,450. The calories needed to maintain her in attendance at the University were 2,050. This was proved by a long period on that diet during which she remained the same weight. The other two periods on chart 3 show times when she was receiving 1,000 calories—approximately half her needs. In each period it will be noted that there are a number of days without any loss of weight, followed by an enormously rapid loss of weight. During the periods of maintenance she retained water, and during the other periods she lost it.

A record of her case over about eight months shows that she lost a large amount of weight during the entire period, going down stepwise from beginning to end. At one time for nearly three weeks she lost no weight. Then within the next three or four days, due to diuresis, she lost

entirely due to the unused calories which she consumed; that she would have weighed just as much if she had not had the endocrine disease provided she had taken as many more calories than she used. The disease may have caused her to crave the extra calories, but having once established the condition, it had no further effect upon her increase in weight.

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About the forty-fifth day our patient was put on 1,000 calories, and she lost weight at a much more rapid rate. The deficit was 1,300 calories per day, and her theoretical loss was 150 grams, but her actual loss was much greater. It was difficult to understand why she lost so rapidly. In order to check up the assumption that 2,300 calories was her maintenance requirement, she was given this amount. Chart 1 shows the replacement of the glycogen which she had previously used up, followed by maintenance of weight. Then she was given 2,500 calories, which, although only a slight increase over the previous diet, caused a slight increase in weight.

Attention is called to another point of interest. The patient's basal calories were 1,825. It has been said that the obese need less energy for work than others, and therefore gain in that way. In this case there was a difference of about 500 calories between her basal and her total requirements—an increase of approximately 25 per cent. The literature which deals with the amount of energy utilized in different kinds of life states that a patient in bed in a hospital needs from 10 to 20 per cent over the basal requirement. This patient needed more than the highest estimate. Since she is larger and every time she moves she has more to lift, it is only reasonable to suppose that this explains the difference.

Chart 2 presents another case in which the total daily calorie requirement under conditions at the hospital was 2,300. Throughout the entire period the patient was fed 1,450 calories. She ought, therefore, to have lost weight from the beginning at the rate of 105 grams daily. In the first period of 13 days she should have lost 1,365 grams, but she actually lost only 225 grams. This is a striking phenomenon and it occurs over and over again, yet the literature on the subject stops at that point. When a patient is put on a reduction diet for ten days or two weeks and does not lose weight, an observer naturally assumes that the obesity is of a type which is not due to excess of food. If, however,

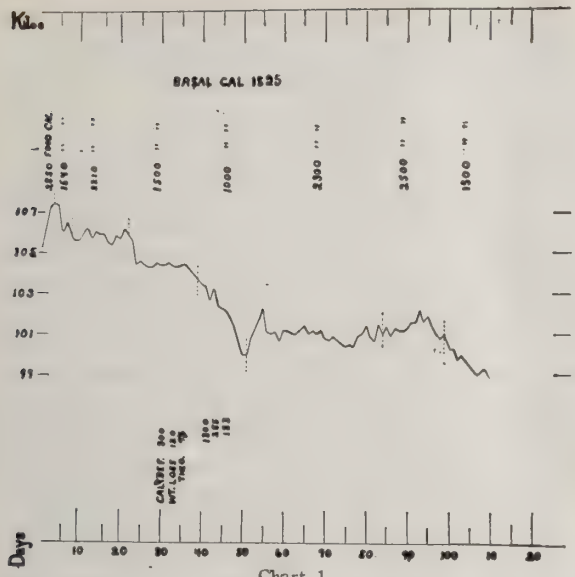

Chart 1

the diet is continued and the patient weighed for another period, loss of weight does occur. In chart 2 the entire time represented is 40 days. During the second period of 27 days the weight lost was not only what it should have been, but the extra amount saved in the early period was also lost. The theoretical loss during these 27 days would have been 2,835 grams, but the actual loss was 4,000. During the 40-day period the theoretical loss would be 4,200 and the actual loss was 4,225—practically the same. This justifies the view that the weight is controlled entirely by the calories; but it still remains, of course, to explain why there was no loss during the early days of the diet.

If the intake and output of water are measured, it is found that during the period of maintenance of weight, water is retained equal in weight to the fat burned up. The weight does not decrease even though fat is lost. From then on the loss of water is greater than the intake until the water balance is reached. The phenomenon, therefore, which has been reported over and over again and which has caused so much confusion, is apparently nothing more than a period of edema, using that word broadly, followed by a period of dehydration. Why the tissues act that way is not understood at present,

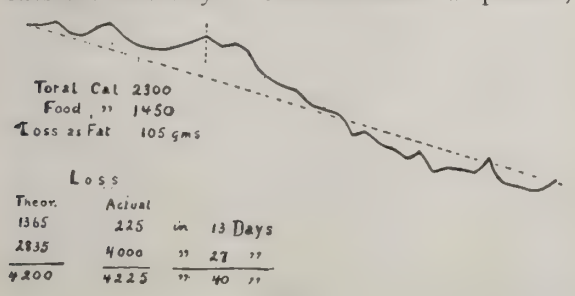

Chart 2

but there seems to be no question about the fact.

Chart 3 shows part of the record of a student at the University who had been fat all her life. Her parents worried about her obesity when she was a child, and as soon as she became interested in her figure she was concerned about the matter. She had a variety of indifferent treatments in a number of places, and she really believed that she had been on a restricted diet for a long time. She had gone to a dietitian and believed that she learned how to restrict her diet, but she had not. She had been treated in the out-patient department of our hospital for one year, but lost no weight, though both she and the members of that department believed that she was living on a diet of 1,200 calories. As she did not lose, she came into the wards. She was offered whatever she cared to take, with the understanding that she would eat 1,200 calories. As a matter of fact she ate almost twice that. She simply did not know enough about dietetics to do the thing right.

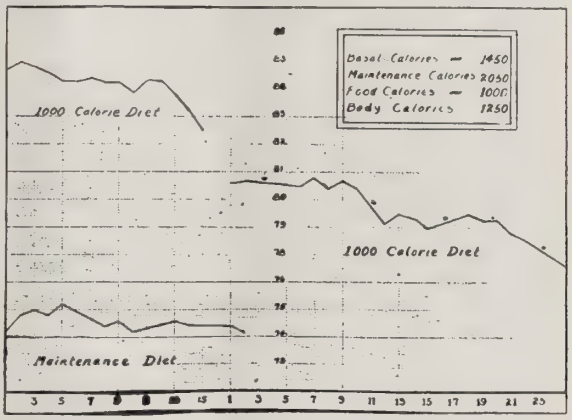

Chart 3

A somewhat interesting failure to lose weight for a long period was noted in her case. Her basal calories were 1,450. The calories needed to maintain her in attendance at the University were 2,050. This was proved by a long period on that diet during which she remained the same weight. The other two periods on chart 3 show times when she was receiving 1,000 calories—approximately half her needs. In each period it will be noted that there are a number of days without any loss of weight, followed by an enormously rapid loss of weight. During the periods of maintenance she retained water, and during the other periods she lost it.

A record of her case over about eight months shows that she lost a large amount of weight during the entire period, going down stepwise from beginning to end. At one time for nearly three weeks she lost no weight. Then within the next three or four days, due to diuresis, she lost

all that she should have lost during the entire period. She weighed practically 96 kilograms on November 2, 1926, and on June 2, 1927, she weighed about 75 kilograms. She was discharged on a maintenance diet on the latter date, and after three months had regained some weight. However, during that period she was married and had an automobile trip with her husband, and she thought it would not be fair to him to pay much attention to her diet during that time, so she indulged herself and naturally gained weight.

The interesting thing about this patient is that she is a college graduate, alleged to be unusually bright, and an "A" student. For years she really believed that she was on a restricted diet, and had gone to a good deal of trouble to learn what she thought was sufficient about diet, yet really learned nothing. The man she married had been waiting for two years. She refused to marry until she had attained a more sylphlike form, so she was in earnest about reducing. In spite of all this, we found that she was getting just about twice what she thought she was getting.

By way of summary: Disease does influence weight, but it does not influence it in the manner in which we have been taught to believe. If, for instance, a person with myxedema is fat, it is because he needs less calories than he did before, since the myxedema reduces the metabolic rate from 30 to 40 per cent. Unless he reduces his intake correspondingly he must store the difference. The myxedema affects only the requirements for calories. Hypo- or hyperpituitarism may bring about another effect. Obesity following encephalitis has been quite prominent in the last few years. This is caused by a disturbance of the appetite. The only relation of the brain disease to the weight is that the patient is abnormally hungry and eats too much. He has literally a disease of the appetite. Any disease which results in obesity must do so because it changes the previous relation between ingo and outgo by increasing the appetite, by decreasing the demand, or by making a formerly active individual lazy, etc.

Department of Metabolism, University Hospital.

ABSTRACT OF DISCUSSION

WILLIAM EGBERT ROBERTSON, M.D. (Philadelphia, Pa.): During water retention is there any known disturbance of the chlorids, particularly sodium chlorid, the one most likely to be suspected?

DR. NEWBURGH (in closing): We have asked ourselves the same question. We know only that when water is retained, correspondingly less sodium chlorid is excreted in the urine. We think that simply a normal salt solution is retained throughout the period.

SLIT-LAMP MICROSCOPY

A Clinical Aid to Diagnosis in Ocular Injuries

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PITTSBURGH, PA.

With ocular injuries occupying a prominent place in the daily practice of the ophthalmic surgeon, it is not infrequently that he meets with conditions which are difficult to diagnose. I refer to such questions as these: Is the corneal or lens pathology old or recent? Does a foreign body lie in the superficial or deep corneal parenchyma? Has the cornea suffered a minute perforation? Has the eyeball suffered a contusion? Has the crystalline lens been injured or subluxated? Is there any early evidence of sympathetic ophthalmia in the fellow eye? Has a process resulted from trauma or disease?—this latter being a matter of special importance in the medicolegal field. In the past the answers to these and other questions have sometimes involved a degree of uncertainty. Today, however, in these instances, we are permitted a relatively satisfying degree of certainty by the use of the slit-lamp microscope.

This instrument has as its principal part the slit lamp devised by Gullstrand[1] of Upsala and demonstrated by him before the Heidelberg meeting in 1911. This was combined mechanically with the Czapski binocular corneal microscope by Professor Henker[2] of Jena in 1914-16.

To Koeppe,[3] of Halle, and to Vogt,[4] of Zurich, we owe the establishment and detailed description of the various phenomena to be observed with the slit lamp, as well as the development of various details in the technic of its application. Through their pioneer clinical work it is today possible to demonstrate a remarkable series of physiologic and pathologic pictures in the living eye. A host of other clinicians—Erggelet, Meesman, Koby, Gallemaerts, Graves, Butler, Gradle, Von der Heydt, Bedell, etc.—have helped to supplement the work of these pioneers.

PRINCIPLE OF THE SLIT LAMP

The principle of the slit lamp is as follows: When a beam of light passes through an ordinary transparent substance in which there are microscopic particles, it causes these apparently transparent particles or cells to reflect light and thus become visible. This is known as the Tyndall phenomenon, and is ordinarily illustrated by dust particles in the air of a dark room becoming visible in the path of a beam of light coming

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*Read before the Section on Eye, Ear, Nose, and Throat Diseases of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 4, 1927.

through a small crack in a shutter. A rectangular beam of artificial light focused sharply on the cornea creates an optical section similar to a microscopic section. Each so-called transparent structure in this section reflects light, and thus becomes visible through its relucency. The illuminated area can then be viewed with a binocular microscope under magnification of 10 to 108 diameters. One can thus study the living eye in serial sections as the beam is passed along from one edge of the cornea to the other. In these sections it is possible to determine the extent (also depth) and nature of pathologic processes in the various layers of the cornea, the anterior chamber, the lens, and the vitreous humor, as readily as one could by observing an anatomical microscopic preparation. Thus, we are afforded an opportunity to study through this instrument, as Vogt[4] says, "the histology of the living eye."

Technic

The technic, though difficult, can be readily mastered after several weeks of instruction by a competent teacher. At the same time, one must also be taught the clinical recognition and interpretation of phenomena now seen for the first time; e.g., the beginner must learn to differentiate white blood cells and other deposits on the corneal endothelium from tear drops and oil droplets on the corneal epithelium.

In the actual operation of the instrument, it is of paramount importance that the light source, a nitro lamp, have its filament set parallel to the vertically adjusted slit—a diaphragm from which the apparatus derives its name. The light must then be thrown on to the objective lens by adjusting the screws of the lamp housing and by focusing the filament, according to the method of Kohler, Henker, and Vogt, on the aplanatic objective lens of the illuminating system. A vertical image of the filament is then seen on the back of this lens. The light may be intensified by setting the rheostat to give a voltage 50 per cent higher. The illuminating system and microscope are next brought to the level of the patient's eye by means of the elevating screw, and both are focused successively on the points to be examined—conjunctiva, cornea, iris, etc. The illuminating and observation systems are simultaneously moved from side to side and up or down as the examination of the various tissues progresses in serial sections. The thickness of the optical sections may be varied by correspondingly changing the width of the slit.

In the cornea, the optical section produced by the well-focused rectangular beam of light from the slit lamp appears as a sort of curved rectangular prism. A pathologic anterior chamber also becomes visible in the beam. The lens appears in brightly illuminated biconvex section. The optical section in the vitreous is less luminous than the sections in the solid media. These sections afford a tridimensional conception of space as they are studied with the binocular microscope.

The most useful magnification for routine work, as we have found it, is twenty-three diameters. This is approximately given by using the No. 2 oculars and A-2 objectives of the Zeiss instrument, or the 5-X oculars and F-32 objectives of the Bausch and Lomb microscope.

For thorough observation, and in order to demonstrate certain structures, various forms of illumination are used: (1) By direct illumination the microscopic particles are seen in the actual path of the beam; i.e., the optical section. This is the method most frequently employed. (2) By transillumination, or retro-illumination, lesions or deposits are best seen on or near the back of the cornea by the light reflected from the iris or the posterior lens capsule; e.g., white blood cells, pigment granules, infiltrations, and new capillaries. (3) By specular reflection, structures are viewed at reflecting surfaces; e.g., the endothelium on the back of the cornea or the lens-capsule shagreen. (4) by indirect illumination—which is scattered illumination—just to the side of the beam, iris pathology, and structures in the conjunctiva may be studied. One must perforce be brief in describing, in the time allotted, the technic and methods of illumination. They are more easily demonstrated with the instrument.

Localization

Accurate depth or anteroposterior localization of lesions is one of the outstanding contributions of this new science to clinical ophthalmology. By observing the optical section formed in the path of the beam of light, pathology can be located with precision in the anterior, middle, or posterior corneal layers, or in various parts of the anterior chamber. Also the depth of the anterior chamber can actually be measured, opacities can be definitely located in various depths of the lens, and depth localization is possible in the anterior portion of the vitreous.

Several methods are followed for gauging depth in the optical section. The most useful are: the focusing of the microscope on the various depths of the section and reading of the micrometer scale on the screw (Ulbrich drum); observing the section with the micrometer ocular in the microscope; and finally, by estimating roughly the depth in the optical section in milli-

meters, and dividing by 10* (method of Vogt). For the latter method the angle of observation to illumination should be approximately 45°.

Differential Diagnosis

In describing the clinical value of the slit-lamp microscope, an attempt will be made to stress the diagnostic problems that are solved with its aid rather than the large lesions that can be observed macroscopically.

Conjunctiva and Sclera

In the conjunctiva and sclera, healed lacerations and perforations present themselves in the form of ivory-white scars. A small red elevated patch, with a history of a two- or three-day-old trauma, may be discovered to be an episcleritis by the presence of new capillaries. Small fresh wounds may also be recognized easily. It is interesting here to see that subconjunctival hemorrhages are actually absorbed in the regions of the lymphatic channels and of the perivascular lymphatics. Other things of interest to be noted in the conjunctiva are: the visibility of the blood circulation in the smaller vessels, arteriosclerosis if present, and small angiomata.

Cornea

From the standpoint of trauma, the outstanding factors in the cornea of clinical interest to the slit-lamp microscopist are: (1) the demonstration of minute lesions otherwise passed by; (2) the exact determination of the location and extent of lesions in various layers of the cornea, whether they be large or small; (3) the differentiation between traumatic and nontraumatic conditions; (4) the differentiation between recent and old corneal pathology.

In the first group may be classified minute corneal erosions, small foreign bodies, or the remains of foreign material in the cornea, evidence of old or recent perforations (however minute they may be), early infiltrations, siderosis and chalcosis, scars, evidence of contusion, and extension of vascular loops into the corneal substance (indicating the presence of a pathologic process.)

Minute erosions appear on the anterior face of the corneal prism as small eroded white spots, which may stain with fluorescein. They are readily located by the method of retro-illumination, and are seen as an aggregation of small dark points. The location of these apparently insignificant lesions often helps to explain the symptoms of photophobia and epiphora in an eye (with or without history of injury) which is otherwise negative on examination.

*When the magnification employed is 23 diameters.

Small foreign bodies or their remains are seen readily by either direct or retro-illumination. Their depth within the cornea is readily gauged by narrowing the width of the slit and noting their position in the illuminated prism. Retro-illumination is also useful in these cases for ascertaining the complete removal from the cornea of the last vestiges of emery particles with their ferruginous rings. The importance of eliminating all foreign material becomes evident in a shortened convalescence. Moreover, such cases are not followed by the faint progressive ring-scar formation seen in some cases of long-retained irritating particles in the cornea. Vogt,[4] Gallemaerts,[5] and Koeppe[6] were among the first to observe these ring scars with the slit lamp. We do not wish to imply, however, that old healed-in particles without irritation need be removed.

The area of infiltration and edema of the parenchyma, often seen about a several-days-old corneal foreign body, when out of proportion to the age and violence of the injury, may indicate infection. The edema is at first manifested by a better-outlined corneal lymph slit system[6] and a localized swelling of the parenchyma. Associated with the edema may be folds in both Bowman's and Descemet's membranes, as well as a few white blood cells in the anterior chamber and on the endothelium.

The slit lamp is also indispensable for the examination of ulcers. They can be studied in serial section, and their depth and extent can be accurately determined.

The discovery of recent or old perforations, however minute, is extremely important. Small perforations can easily be missed without slit-lamp examination. A small perforation is best seen by direct illumination in the corneal prism. When fresh, it can be seen to extend through all the corneal layers and to be associated with folds in Bowman's and in Descemet's membranes. The changes in the parenchyma (opacity), if not infected, disappear in a few weeks, except for particles which are brushed from the sides of the fragment, during its entry, and which become healed in. The age of a perforation, whether recent or old, is ascertained by the presence or absence of the parenchymal opacity. The scars in Bowman's and in Descemet's membrane, however, are permanent and may be seen years after the trauma. They may be the only positive evidence of an ocular injury, for occasionally a patient with a small intra-ocular foreign body or a (traumatic) cataract may not even remember having been injured. Thus, it becomes essential routinely to rule out (with a large measure of certainty) the presence of a minute cor-

neal perforation. The possible medicolegal value of this is self-evident.

Case 1. A. P.,* aged 24, noticed failing vision in the left eye for six years with onset of cataract. A slit-lamp examination revealed siderosis of the cornea, iris, and lens capsule, with a minute corneal perforation. The patient could not recall having received any injury. X-ray localization confirmed the presence of an intra-ocular foreign body.

Motto[7] reports a similar case in which ordinary examination revealed no entrance wound and the patient gave no definite history. The slit lamp disclosed a perforating wound in the cornea, a small hole in the iris, a traumatic cataract, and siderosis. An x-ray of the eye was negative. The patient frequently hammered enamel ware at work. A small fragment of enamel in an eye would not be disclosed by x-ray. The patient was awarded compensation for the full loss of an eye upon the presentation of the above findings to the Ohio Industrial Board (which had two years previously denied the same claim). Later, enucleation revealed a chip of enamel within the eye.

By observing the course of a perforation and the relative positions of the iris hole and the lens entrance wound, the path traversed by the perforating fragment can be visualized and compared with x-ray localization findings.

Early infiltrations as well as scars can be definitely measured and located as to depth. Siderosis may be observed in the cornea as a faint yellowish-green coloration of the parenchyma. In chalcosis there is an accumulation of copper pigment at Descemet's membrane near the limbus.

In contusion there may be a localized corneal opacity with folds in Descemet's membrane, and there may be red blood cells, hemosiderin, and pigment granules deposited on the endothelium as well as floating in the anterior chamber.

Small vascular loops extending into the corneal parenchyma are best seen, with their circulation, by retro-illumination. Their depth localization in the cornea is accomplished by observing them in the corneal prism. They may indicate an early keratitis or, in a case of perforative injury, they may (according to Koeppe,[6] in an apparently quiet eye) foretell a shrinking eyeball if they are noted at the limbus at some distance from the entrance wound.

In the second group, the determination of the extent of macroscopic wounds in the cornea is readily accomplished with the slit lamp. The depth of flap wounds can be measured in fractions of a millimeter in the corneal prism. The extent of lacerations may also be accurately determined with the aid of the microscope.

In the differentiation between corneal traumatic and nontraumatic conditions, the slit lamp is again a great aid. Here, we are eager to determine whether a foreign-body ulcer or traumatic scar is such, *per se,* or whether the lesion is due to an early trachomatous pannus, or to a corneal herpes, or possibly to a beginning or old healed interstitial keratitis. Of course, a herpes corneæ or a trachomatous pannus could explain the prolonged convalescence of some foreign-body ulcers. Central scars due to any one of these conditions or to an old phlyctenular keratitis cause a lowered acuity of vision, and it is therefore extremely important to note the extent of the faintest scar and its depth localization. In trachomatous pannus are seen superficial vessels with a somewhat irregular corneal epithelium and involvement of the anterior parenchyma. Interstitial keratitis is seen to begin with tongue-like projections of infiltration and of vessel loops from the limbus in the posterior third of the cornea near Descemet's membrane. Its appearance is characteristic. It may always be recognized by the deep-lying opacities and by the deep-lying vessels, neither of which entirely disappear. On the other hand, the opacity of a phlyctenular keratitis or a herpes is in the anterior layers. Occasionally a corneal injury is associated with an iritis, which can be recognized by the cellular content and increased relucency of the aqueous and by the microscopic deposits on the endothelium. This is often possible with the slit lamp many days prior to the appearance of macroscopic changes. If the clinician can definitely classify his case early, as traumatic or nontraumatic, he can lay responsibility (from the standpoint of the Compensation Law) on the proper shoulders.

The differentiation of old from recent pathology has largely been covered in the above description of corneal scars and perforations and in the discussion on differentiation between traumatic and nontraumatic corneal lesions. We should, however, mention thinning of the cornea, which is usually due to former ulceration unless present in keratoconus.

Anterior Chamber

In the anterior chamber, red blood cells and pigment granules may be seen floating after contusion. The pigment granules may remain on the walls of the chamber for years after an injury. White blood cells in the anterior chamber or on the endothelial layer of the cornea indicate a keratitis or a uveitis. The white blood cells in the aqueous and the keratitic precipitates may

*Butler[8] reports two similar cases.

be the first diagnostic signs of an iritis or uveal disease. When the aqueous particles are moving freely, the prognosis for recovery from an iritis is good. The keratitic precipitates take on various forms, and have been classified by Koeppe.[3] In traumatic cataract, lens-matter particles may be seen to float in the aqueous. Unequal depth in various parts of the anterior chamber may indicate luxation of the crystalline lens. The edge of a luxated lens may be seen in optical section. A vitreous hernia may be seen to extend into the anterior chamber in some of these cases of subluxation. The vitreous face is here best outlined by a very narrow slit, and may be recognized by its different index of refraction and its pigment-granule content.

Iris

In the iris the evidences of ocular injury may be a rupture of the pupillary border, a radial laceration, a detachment of the superficial from the deep layers, a hole due to a perforation, or the presence of a foreign body in the iris meshes. Siderosis can be recognized by a rusty appearance of the iris as compared with the fellow eye. Pigment dust can be seen in profusion on the iris surface after contusion or perforation of an eye. It was mentioned above that an early iritis can be recognized by the presence of white blood cells and fibrin in the aqueous, and by keratitic precipitates; iris hyperemia and often nodules may be added. It may be said with certainty that nodular iritis is not traumatic, with the exception of sympathetic ophthalmia. It is important, therefore, in case of a perforative wound, to watch in the iris as well as in the anterior chamber of the fellow eye for the first symptoms of sympathetic involvement. Sympathetic ophthalmia, being a uveal disease, first manifests itself by cellular elements in the vitreous, in the retrolental space, and in the anterior chamber, and then by nodules on the iris as described by Koeppe[3, 6] and Butler.[8] It is obvious that, from the standpoint of prognosis and treatment, these early observations afforded by the slit lamp are extremely important.

Koeppe[3, 6] has offered a clinical etiologic classification of iritis based on slit-lamp examination. This differentiation of various forms of iritis by the slit lamp is a very important addition to our knowledge, but it does not lie within the scope of this paper.

Crystalline Lens

The slit lamp has added considerably to the knowledge of lens anatomy and pathology. If it had given no other information than differentiation of the various forms of cataract, it would have justified its existence. From the standpoint of lens injury, the following questions are of interest: Is the cataract of traumatic or pathologic origin? Are the lens opacities old or recent? Is the lens subluxated?

The ordinary traumatic cataract shows a feathery, rosette-shaped opacity in the posterior cortex, and sometimes also in the anterior cortex, with a denser opacity at the site of perforation. There are small vacuoles under the capsule between the lens fibers. At the site of perforation, swollen lens fibers and Elschnig pearls may be seen. The rosette-shaped opacity may absorb if the capsule wound closes, and some time later there may be a capsular opacity only; or the whole lens may become cataractous; or, on the other hand, the injured lens may undergo atrophy, and several years later a rosette may be seen beneath the cortex. Its distance from the cortex is a clue to the time elapsed between injury and observation. Traumatic cataract is differentiated from complicated cataract by the characteristic soap-bubble and chopped-meat structure of the latter, with its peculiar luster. The senile cataract, on the other hand, has wedge-like opacities, lamellar dissociation, and water slits. Associated with the traumatic cataract are other evidences of trauma such as perforation and contusion. The Vossius ring cataract is caused by contusion, and the pigmented ring imprint of the sphincter on the lens capsule can readily be seen (the imprint is transitory). Folds may be present in the anterior lens capsule after contusion or after a small capsular laceration heals. These folds are seen best with the narrow slit. They are sometimes the cause of reduced visual acuity, which is otherwise unexplainable. Traumatic cataract may be associated with a nodular iritis, which, of course, is not of traumatic origin. This is well illustrated by the following case:

Case 2. F. C., aged 23, was struck in the left eye with a B-B shot from an air gun. The eye had troubled her for two weeks previous to the injury. She suffered a violent contusion, with an iridodialysis, sphincter rupture, and a traumatic cataract beginning at the equator of the lens. With the slit lamp, small pieces of lens fiber could be seen floating in the anterior chamber, and nodules could be seen at the pupil margin of the iris. The tuberculin test was positive. Other laboratory tests were negative. The other eye was negative. It was evident that she had both a nodular iritis (apparently tuberculous) and a traumatic cataract, which later involved the whole lens. The iritis cleared up under tuberculin injections, and the cataract was later removed. The slit lamp was valuable here in determining the presence of two distinct pathologic processes. We could not see the nodular iritis with the loupe and oblique illumination, nor with the plus-20 lens in the ophthalmoscope.

A capsule perforation may at times be seen with the slit-lamp microscope through a hole in the iris.

We may repeat, the age of a lens opacity varies directly with its distance from the capsule. Therefore, opacities with clear lens substance over them cannot be recent, and opacities which are confined to the embryonic nucleus can only be congenital.

Two interesting forms of cataract associated with ocular trauma are: the one showing siderosis, with a spotted rusty appearance of the cataractous lens capsule (case 1 mentioned in this paper was of that type); the other, the sunflower cataract, showing a polychromatic sunflower opacity of the lens with gray-blue and yellowish gray-green spots (it is due to copper in the eye).

With the anterior chamber cloudy, it is often difficult to see the Purkinje images, and here again the slit lamp is of use in indicating whether the lens is *in situ*. Subluxations are also evident by bulging forward of the iris in whole or in part.

It is evident that the determination of the cause and the age of lens pathology has a definite medicolegal value.

Vitreous Humor

The vitreous humor, considered structureless previous to study with the slit lamp, is seen to possess a quite intricate framework, which is modified by age and disease. It may show a wealth of pathologic change, be it absorption or breaking up of the supporting structure, deposits of crystals, red blood cells, hemosiderin, pigment granules, lymphocytes, or what not. The white blood cells appear in the vitreous in inflammations of the uvea and retina and also in optic neuritis. Our study is limited, however, to the anterior third.

We are chiefly concerned, in the vitreous, with the early premonitory symptoms of sympathetic ophthalmia such as white-blood-cell infiltration, also with evidence of blood and pigment dust in its anterior segment after contusion, and with the presence of streaks both in the vitreous and on the posterior lens capsule in scleral perforations, as well as with profuse white-blood-cell infiltration in uveitis and in infection after perforation. The blood in the vitreous after contusion is absorbed, but the pigment granules usually remain.

Vitreous hernia into the anterior chamber after subluxation of the lens has been previously mentioned. It is also present in all cases of discission of a secondary cataract. In some corneal perforations (due to sharp tools), strands of vitreous can be seen attached to the corneal wound. From this it can be told that the object which perforated the cornea and which was pulled out had entered the vitreous chamber.

Medicolegal Value

Butler[8] says, "All cases referred for report after accidents should be examined with the slit lamp." From the foregoing brief résumé of slit-lamp applications to traumatic ophthalmology, the following may be recalled: (1) the readiness with which minute traumatic lesions are discovered, such as small corneal perforations, etc; (2) the possibility of differentiating traumatic from nontraumatic lesions of the conjunctiva, cornea, iris, and lens; (3) the readiness with which recent pathology can be differentiated from old pathology; and (4) the greater accuracy of observations when supplemented by slit-lamp microscopy. Both case 1 and Motto's case, mentioned above, are instances of the medicolegal importance of slit-lamp findings. We believe it to be obvious that it is important to know whether an apparently superficial injury is serious, whether lesions are old or recent, and whether they are traumatic or nontraumatic. The courts are certainly interested in these facts. Butler[8] says that some insurance companies are already becoming aware of the necessity of the slit lamp, and that it is only a matter of time until they will demand slit-lamp examinations.

In conclusion, we might say that the slit lamp by no means replaces any of the other methods of examination, such as oblique illumination, the loupe, the ophthalmoscope, the x-ray, or the laboratory. But it supplements all these by giving more complete and more accurate data than is possible to gather without its aid. The slit-lamp examination is not time-consuming, for the man who has learned the technic and interpretation of these new phenomena may examine both eyes with the slit lamp from cornea to vitreous in four to five minutes. The slit lamp is also indispensable for the clinician because it permits (1) more accurate determination of the depth, location, and extent of ocular injuries; (2) the early discovery of small lesions which are not readily and sometimes not at all demonstrable by other means; (3) more certain differentiation between traumatic and nontraumatic lesions; (4) the early recognition of sympathetic ophthalmia; and because it aids in the solution of some medicolegal problems and adds considerably to the knowledge of the living eye.

8075 Jenkins Arcade.

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ABSTRACT OF DISCUSSION

ADOLPH KREBS, M.D. (Pittsburgh, Pa.): The use of the slit lamp is essential for complete examination of an injured eye, since it enables the physician to see things that cannot be observed by any other method. All have realized the limitations of other forms of illumination. Even the corneal microscope was of limited value until the kind of illumination peculiar to the slit lamp was combined with it. Quoting Butler's recent work, "The most essential feature is not the magnification gained by the Czapski Zeiss microscope, but the accurate command of the illumination and the power of localization conferred by the slit lamp."

The ability to localize is one of the chief advantages of the slit lamp. The well-illuminated optical section permits inspection of any part of the cornea or lens and even the anterior part of the vitreous without difficulty. By no other method can the various strata of the cornea and lens be so well seen, nor can the otherwise invisible floating cells in the aqueous be demonstrated. Only by slit-lamp microscopy can the various parts of the crystalline lens be studied with satisfaction; the normal shagreen of the anterior and posterior capsules, or the abnormal excessive irridescence indicative of beginning lens changes; the adult, fetal, and embryonic nuclei, and the central clear area; opacities of all kinds and sizes; vacuoles; so-called cholesterin crystals; beginning separation of the lamellæ and sutures; the exact site of a foreign body in the cornea; the depth in the anterior chamber at which an object is situated; the turbidity of the aqueous, and its viscosity, which can be determined by the rate of movement of its floating cells; white and pigmented cells in the vitreous; or changes in the vitreous structure.

Perhaps the chief objections to the instrument are that it is expensive, its use takes time, and considerable experience and knowledge are required to interpret the findings and master the technic. None of these, however, should prevent the progressive and conscientious ophthalmologist from giving his patient the benefit of a more exact examination, with its resultant better diagnosis and more reliable prognosis and treatment.

Slit-lamp diagnosis is especially important in medicolegal work. Just as thorough radiographic study is now being insisted upon in fracture cases, so will opinions based upon careful slit-lamp examination be required in all serious or doubtful ocular injuries.

A man of 73 complained of failing vision in one eye. No history of previous injury could be elicited. Slit-lamp examination disclosed a fine corneal scar, a perforation of the iris, and a typical sunflower cataract. A diagnosis of chalcosis was made, and an opinion given that the eye had been injured or penetrated by a copper-bearing foreign body .Further questioning then brought out the fact that the patient had had such an injury three years before from the explosion of a dynamite cap, but had forgotten it. This fine deposit of copper could not be observed by the usual methods of examination, as the particle was too small.

A boy of 14 with mature cataract of one eye was seen. Slit-lamp study showed a very fine scar extending through all the layers of the cornea in the pupillary space, a scar not visible by the usual methods of focal illumination. There was absolutely no history of any injury. Radiography showed a foreign body in the lens which proved to be a minute particle of steel. An indifferent observer might have made an incorrect diagnosis, but the use of the slit lamp made this impossible.

BENJAMIN KUNTZ, M.D. (Pittsburgh, Pa.): Concerning the patient with chalcosis mentioned by Dr. Krebs, I wish to add that the vision was O.D. 3/200, O.S. 1/200, and there was no improvement with glasses. The color sense was good, but weaker in the left eye. The pupils were equal, round, and reacted normally to light, directly and consensually, and to accommodative convergence. The media of the right eye showed fine vitreous opacities, while that of the left eye was clear. Both fundi showed gray optic atrophy with attenuation of the retinal vessels. The Wassermann was negative. Diagnosis could not have been made without the aid of the slit lamp.

PLASTIC SURGERY OF THE FACE AND MOUTH*

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Plastic surgery is that branch of surgery which deals with repair of defects and malformations, whether congenital or acquired, and all operative measures undertaken to improve appearance and to restore function.

Previous to the World War, the public did not realize the possibility of correcting hideous distortions of the features, or the replacement of a large section of the face. In fact, only a few medical men were familiar with this branch of surgery. During the war, and especially during the latter part of it, plastic surgery made great advances. The improvements instituted then are applicable in civil life at the present time in the correction of ugly scars resulting from burns and accidents, deformities of the nose and ears, cleft lip and cleft palate, large moles, port-wine marks, and other disfigurements which are a great source of anguish and which lower the market value of the individual. The majority of these patients improve mentally and physically after correction of their disfigurements.

Seldom do we find two cases exactly alike; consequently, no definite procedure is applicable, but each case must be studied and the operation planned to meet the condition existing. Herein lies the fascination of the art, and the plastic surgeon must draw on his imagination and be able to build a mental picture of his work when completed if he wishes to make it a success. His judgment must tell him whether one or

*Read before the Section on Eye, Ear, Nose, and Throat Diseases of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 4, 1927.

twenty or more operations are necessary, as the results in certain cases are slow, and in these the process is one of gradual building up. Plastic surgery cannot be done in a hurry, and many cases are a tax on patient and operator alike; but fortunately, people who are thus afflicted are usually endowed with great fortitude.

Contrary to general belief, plastic surgery dates back many centuries. It is interesting to note that it was practiced in ancient India and Egypt, as is shown by the sacred writings of India and Eber's Papyrus, in both of which rhinoplasty is mentioned. Celsus, Galen, and others of their time speak of the restoration of ears, noses, and lips from skin. Then for many years the art was lost, at any rate to European surgeons. Perhaps the first plastic surgeons were members of the tilemakers caste of India, who reconstructed noses from pedicle cheek and forehead flaps. Reconstruction of a nose by this procedure is styled the Indian method, and with some modification, the same procedure is practiced today. They are also said to have used free flaps from the gluteal region for the same purpose after the parts had been beaten with a wooden slipper until considerable swelling had taken place. A secret cement was used for attachment of the flap.

Branca, a Sicilian surgeon in 1442, was the first European to build a nose from a skin flap from the face. We have no authentic record of the popularity of plastic surgery again until 1546, when Gaspar Tagliacozzi, an Italian, practiced this branch of surgery and wrote the first book on the subject, making special mention of the reconstruction of a nose by raising a flap from the arm, leaving the pedicle attached, and after making the nasal surface raw at proper regions, the flap was sutured in place, the hand being placed upon the head and held in position by a harness. In about three weeks the flap was cut loose from the arm, and pared to the proper shape. The French method was by gliding lateral facial flaps over the defect and suturing. Dr. J. Mason Warren of Boston was the first in the United States to form a nose successfully by the Indian method.

In 1869, Reverdin took small bits of skin and placed them upon granulation surfaces and they grew. This procedure is still used by some, but it does not prevent contractures, and the new skin is apt to break down. Ollier of Lyons in 1872 succeeded in transferring large pieces of skin to denuded surfaces and have them take, but his work was ignored by his countrymen. His idea was adopted by Thiersch of Leipzig in 1874 in a successful manner. Contractures and weak resistance to injury are faults in this method also.

Wolfe of Glasgow in 1875 reported a lid formed by the use of a whole-thickness graft taken from the arm. This method is used extensively at the present time, and the objections offered in the case of the Ollier-Thiersch and Reverdin grafts do not exist. The Wolfe graft includes both layers of skin, and should be made one fourth larger than the surface to be covered, to allow for shrinkage. Several holes are made in it for drainage.

Skin-grafting and plastic surgery are closely linked together, as it is necessary to skin-graft in most plastic operations. Autografts are grafts taken from the person upon whom used, and are preferable to isografts, which are taken from a donor. However, isografts are a success if the donor is free from disease and is the same type as the patient. That is, the donor's blood corpuscles must not agglutinate upon addition of the patient's serum. Zoögrafts, or grafts from animals and poultry, have been tried for years, and although these grafts may take readily and assume the character of the surrounding skin, yet they melt away and disappear when the wound has healed.

Paraffin came into popular use several years ago for filling in defects, and for eradication of wrinkles, but its use should be severely condemned, as it is dangerous. Celluloid and other materials have been tried, but they are foreign to the body structure, and are not well borne. In recent years ivory has been used, and is said to be a substitute for cartilage and bone when needed in place of these structures for building up a defective part.

Cartilage is an ideal supporting substance when not too much strain is put upon it, as it will live and not shrink, is readily molded, is not easily fractured, and will grow to bone when placed in contact with it. It is used to fill out sunken areas in the face and skull, and for the correction of saddle nose, and orbital ridges.

When there is loss of a large amount of skin and deep tissue, pedunculated flaps consisting of strips of skin and subcutaneous fat with a pedicle are used in its place. Sometimes both ends of the flap are left intact for a time to establish circulation before the flap is transferred from its bed.

Hump and Saddle-Bridge Nose

Perhaps the most common and frequently the most unsightly of facial deformities are hump and saddle-bridge nose. The greatest deterrent to their correction is the difficulty of reaching the field without causing infection or visible scar

Fig. 1. Method of approaching the field in operation for hump or saddle-bridge nose, showing the skin incision at the anterior part of the columella and scissors inserted beneath the flap to separate the skin.

formation. While on board the S. S. Rotterdam, June 29, 1922, I described to a group of medical men who were going abroad for medical study, a simplified method of approaching the field which I had been using for a number of years. I thought the idea was original, but since publishing an article on the method in the July, 1925, number of the *Archives of Otolaryngology,* I have had communications from two other operators who state that they have used a somewhat similar procedure for some time. Even though a few are using it, I feel justified in bringing the idea to the attention of the profession more generally because of its facility and safety.

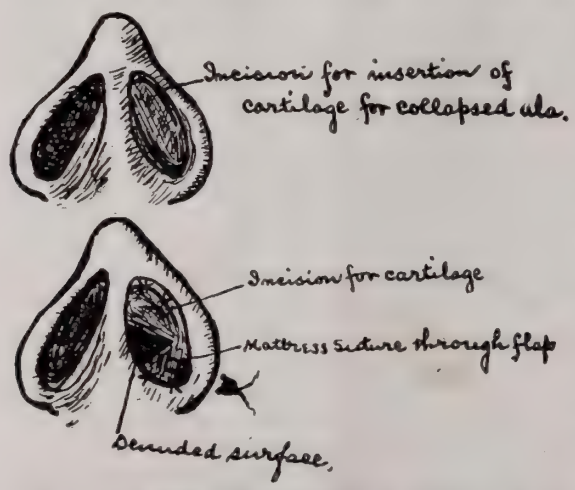

Fig. 2. The upper illustration shows a method for correction of depressed ala nasi by insertion of cartilage; the lower shows the Jobson-MacKenty method for correction in extreme cases of collapsed ala nasi.

Ether by insufflation is the method of choice in general anesthesia for this operation. For local anesthesia, one-per-cent procain is used in selected cases.

After clipping the hair from the nostrils, their walls are painted with a solution composed of mercurochrome 2 grams dissolved in 35 c.c. of water, adding acetone 10 c.c. and 95-per-cent alcohol 55 c.c. This solution is also used on the outside of the nose and upper lip. The nasal passages up to the vestibular junction are packed with half-inch strips of sterile gauze over which plugs of cotton wrung out of saline solution are placed to prevent oozing of blood into the throat.

A transverse incision is made with a small sharp scalpel through the skin of the anterior part of the columella, at its junction with the under surface of the nasal tip, and prolonged on each side along the anterior sharp borders of the nares for about one-quarter inch. The skin is dissected from the tissues beneath, the flap is raised with a single or double tenaculum so as not to crush it, a pair of small Mayo or similar scissors with blunt but narrow points is substituted for the scalpel, and the skin is easily and quickly separated over the tip, bridge, and sides of the nose by alternately opening and closing the scissors. This incision is sufficiently large to allow any instrument used in the operation to be freely manipulated, or a graft of correct size to be inserted.

For correction of hump nose, all loose tissue is freed, and the periosteum is separated to each side with an elevator. Then the hump is removed with a chisel, a small saw, or spoke shave, according to the will of the operator. I prefer specially designed rasps in different sizes. Bleeding is controlled by applying firm pressure for from three to five minutes. The plugs are removed from the nostrils, stitches are taken with medium-sized "dermal" suture, placing one suture in the center of the columella, and one in the border of each anterior naris. The sutures should be placed close to the edges of the skin, and tied with barely sufficient tension to draw the skin together. Care should be exercised in approximating the skin edges accurately, as an uneven union will increase the tendency to scar formation. However, if a scar does form, it will not be observed unless the under surface of the nose is brought into view. The stitches

Fig. 3. Hump nose before operation.

Fig. 4. Hump nose after operation.

Fig. 5. Saddle-bridge nose before operation.

Fig. 6. Saddle-bridge nose after operation.

Fig. 7. Collapsed alæ nasi before operation.

Fig. 8. Collapsed alæ nasi after operation.

should be removed on the third day. A pressure dressing, consisting of a piece of properly trimmed dental wax, is placed in warm water to soften, after which it is molded over the bridge and allowed to harden. Adhesive strips are used to attach this dressing in place, and it is left for forty-eight hours. Sterile petrolatum or albolene may be applied to the skin incision to prevent the formation of crusts.

The same technic may be followed in forming a bed for the insertion of ivory, cartilage, or bone-cartilage graft, for the correction of saddle-bridge nose. A hump on the side of the bridge may be removed or lateral depressions filled in with cartilage in this way.

I believe this subcutaneous route offers a method which is superior to any other for the following reasons: (1) If a scar forms, it is not observed under ordinary circumstances. (2) Drainage is easily established, if required. (3) Approach to the field for all bridge operations is simplified. (4) There is less danger of infection and less trauma than by the internal nasal route, as it is necessary to raise the skin only over the bridge, and not from the inside of the nose, in correcting hump or saddle-bridge nose.

Collapsed Alæ Nasi

This condition, known also as pinched nose, results from a deformity of the alar cartilages, or else an atrophy of the muscular fibers supplying these structures. Great difficulty in breathing through the nose is often experienced in this condition. At times, an operator is chagrined when he discovers that a perfect operation on a supposed obstruction within the nose fails of correction, owing to the fact that the real trouble was collapsed alæ, which were elevated during the examination and operation, and consequently overlooked.

A simple method of correcting a collapsed ala is to make a skin incision on the inside of the nostril, about a quarter-inch (0.6 cm.) from its border, and extend it from as near the roof of the nose as possible to the lower third of the outer wall. The incision should be made in front of the depressed part, for the reason that the cartilage which is to be used is more easily inserted, better retained, and the stitching facilitated, than by an incision directly beneath the depression. The skin beneath the alar cartilage is raised with an elevator or slightly curved scissors with blunt points sufficiently to correspond to the depressed area. Following the dissection of the skin, a piece of ivory or a thin piece of cartilage (taken from the back of the ear or the costal region) of sufficient size to elevate the ala is placed in position, and the skin stitched. A cylinder of gauze covered with tissue or sterile petroleum jelly is inserted into the nostril and left for twenty-four hours. The stitches are removed the third day.

In extreme cases, it may be necessary to widen the floor of the nostril after the method of Dr. J. E. MacKenty. This is done by dissecting a flap from the floor and septal side, extending the dissection backward beyond the ridge of bone which crosses the floor at the mucocutaneous junction. All unnecessary tissue is removed from the flap, leaving only cuticle and mucosa. The flap is swung outward, and its anterior border sutured to the line of the original incision. In addition, I use a mattress suture, by passing the needles from within out and through the flap and outer wall of the nostril, and tying on the outside. This fixes the flap firmly in its new bed.

Cauliflower Ear

This ear deformity is characterized by thickening and distortion of the contour of the auricle. The condition is the result of hematoma auris, which becomes organized into cartilage and scar tissue. The treatment consists in making an incision in front of, and parallel to the rim of the ear. The skin is carefully dissected from its outer and inner surfaces, to the side of the head if necessary. The auricular skeleton is then sculptured into shape with scalpel and scissors. Absences in continuity of the rim may be corrected by stitching in pieces of cartilage with absorbable catgut. The skin flaps should have several cuts made in them for drainage, then drawn over the modeled ear cartilage and their edges united in front of the rim again. Several mattress sutures may be passed through both layers of skin and cartilage to facilitate union. An even pressure should be maintained by filling all irregularities with cotton wet with salt solution, and allowing it to remain until healing takes place. A gauze pad and pressure bandage is applied.

Cleft Lip and Cleft Palate

The surgically inclined rhinologist should be able to correct cases of cleft lip and cleft palate for the reason that in the surgical correction of these malformations, a knowledge of nasal surgery is essential in order to give the best cosmetic results, and to increase the functional activities of the nasal chambers. Consequently, correction of cleft lip and cleft palate alone does not suffice. The operative procedures which I shall describe are not original, but are a combination of methods which have given me the best

Fig. 9. Cauliflower ear, saddle-bridge nose, thickened lips, and scars on face, the result of inhuman treatment.

Fig. 10. Correction of facial deformities after three months' work.

Fig. 11. Single complete cleft lip and cleft palate.

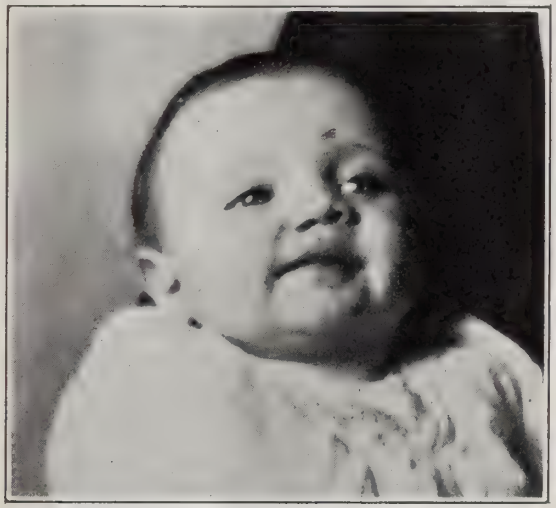

Fig. 12. Two months after correction of lip.

Fig. 13. Double complete cleft lip with protruding premaxilla.

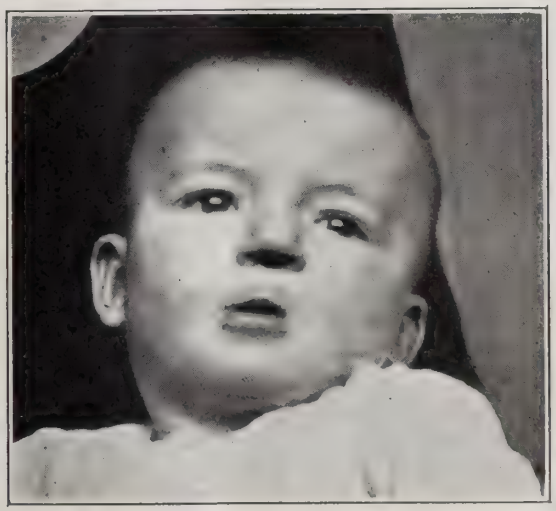

Fig. 14. Corrected by Reich's method. Note the absence of columella, since corrected by flaps from the inside of nostrils.

results after trying several of the universally employed operations during the past twelve years.

In brief, cleft lip and cleft palate are malformations due to nonunion of certain embryonic processes. The term "harelip" originated from its supposed resemblance to the lip of a hare. Following Brophy's idea, I have adopted the word "cleft" as being more descriptive of the condition. The clefts are single or double, and may vary in extent from a slight notch to a complete slit of the lip. A cleft is incomplete when it does not extend to the nostril, and complete when it reaches its floor. Cases are seen with a complete cleft on one side and an incomplete one on the other. A rare type consists of a median cleft. The etiology of cleft lip is not known, despite the various theories that have been advanced. The surgical procedures described in this paper will deal only with complete deformity of lip and palate.

There is great diversity of opinion as to the choice of age for operation, and whether the lip or palate should be corrected first. I prefer to repair the lip first, doing so as soon after the third week as possible, and not later than the fourth month if it can be avoided, for the following reasons: (1) The premaxilla and vomer bones begin to ossify about the fourth month, which makes molding of them progressively difficult. (2) Early closure of the lip will cause the margins of the alveolar cleft and palate to approach each other, and the premaxilla will be gradually forced into place in most cases by the constant muscular action of the lip. (3) There is improvement in nasal breathing and in the facial appearance. (4) There is less shock in consequence of the immature development of the nervous system. (5) Mental anguish of the parents is relieved by early repair of the lip.

In preparation, the thymus gland should be fluoroscoped or x-rayed and reduced to normal by the x-ray if enlarged. The nutrition should be brought to as high a state as possible. A blood-coagulation test is necessary to guard against hemophilia. The lip and face are washed with benzine or ether, and painted with the mercurochrome-acetone-alcohol solution. Very light ether anesthesia is administered. Thorough separation of the lip, nostril, and cheek from the underlying bones is done on each side, so that the cleft-lip margins may be approximated without tension. Measurements are taken with a pair of compasses from the level of the opposed corners of the lower part of the nostril directly downward to an imaginary line which would complete the natural curve of the upper lip. The compasses are fixed apart at this distance, and measurements made in the lip on each side of the cleft from the line between the angles of the nostrils to points close to the junction of the skin with the red line, and so placed that these measurements equal the first one. The lip is transfixed with a narrow-bladed knife at the junction of the skin and mucous membrane, and the incision carried to the angle of the nostril with a curved sawing sweep. Returning to the junction of skin and mucous membrane, and cutting at an angle of sixty degrees to the first incision downward through the red line and toward the cleft, the removal of the border of the cleft is completed. The same procedure is carried out on the opposite side. The two raw surfaces on each side of the cleft should then be of equal length. The sides of the wound are brought together with an inner and outer row of medium-sized "dermal" sutures, so arranged that the deep sutures are knotted on the posterior surface of the lip.

Double cleft lip is treated in a similar manner, with the exception that the edges of the premaxillary wedge-shaped portion are pared and fitted in between the raw borders of the cleft.

Complete cleft lip is usually accompanied by a cleft palate and a protruding premaxilla. This bony prominence should not be forced back more than is necessary to approximate the lip borders. Neither should it be wired or sutured, for the following reasons: (1) The developing incisor teeth may be injured sufficiently to destroy them, or if not traumatized, they may erupt behind instead of in front of the lower teeth, which gives a flat appearance to the upper lip. (2) The natural position of the premaxilla is in front, and not between the maxillæ; and if so placed, it will interfere with the closure of the anterior borders of the cleft palate by keeping the maxillæ apart.

In most cases, if the lip be properly corrected, the activity of the muscles of the lip and face will gradually bring the premaxilla into normal position. If the premaxilla projects so that it is impossible to close the lip over it, a wedge-shaped piece of the septum may be removed from its free margin, and sufficient pressure used to allow the lip to be closed over it. I have had cases of double cleft lip and cleft palate in which the premaxilla protruded to such an extent that it was necessary to resort to Reich's method. This operation is done by separating the philtrum from the premaxilla by a cut upward and backward through the septum, and removing a wedge-shaped piece of the posterior part of the septum from between parallel incisions of its mucous membrane.

No dressings are used, as they gather secretions which predispose to infection. The mer-

curochrome-acetone-alcohol solution is painted on the suture line. The hands should be secured by pinning the cuffs to the clothing, or by placing cardboard tubes over the arms. Paregoric is administered for restlessness. Sterile water may be given with a dropper or spoon every two hours for ten hours, after which time the feeding of sterile liquid food may be commenced. The mouth and nose are cleansed with normal salt solution, and boric-acid ointment is used to soften the hardened secretions.

Cleft Palate

Years ago I used the Brophy plan of transfixing the maxilla with wires, but abandoned it for the mucoperiosteal operation, with which I was quite successful. Within the past year, I have substituted the bone-flap operation, as practiced by Dr. G. V. I. Brown, in complete cleft of the palate.

Briefly considered, the procedure is as follows: Incisions are made on both sides of the palate in an anteroposterior direction along the line of and internal to the alveolar ridge. A chisel is forced through the palatal bone at the bottom of the incision, and with pressure inward and upward, the necessary fracture results. The same procedure is followed on the opposite side, which permits both sides of the palate fissure to be brought into contact. Two strands of silkworm gut are carried through the incisions and tied. This holds the parts in apposition so that the freshened edges of the soft palate may be completely sutured from the tip of the uvula up and beyond the posterior part of the hard palate, and sometimes through its central portion. Gauze strips with tapes attached are packed firmly into the openings on each side and the tapes secured to the cheeks with adhesive tape. The packing is left in for five days if there are no contraindications. If the anterior part of the cleft cannot be closed at this time, a second operation by the mucoperiosteal method may be done one year later. The first operation should be done at from six to nine months of age.

ABSTRACT OF DISCUSSION

Albert A. Bornscheuer, M.D. (Pittsburgh, Pa.): There are many methods of preparing the skin for nasal operations. Most general surgeons use half-strength tincture of iodin followed by alcohol, inserting alcohol pledgets inside the nose. Another preparation used is carbon tetrachlorid 1,000 c.c., with 20 grams of crystals of iodin dissolved in it. This solution keeps only a week.

When skin must be transplanted a long distance, it is helpful to raise a flap at the end of a pedicle, according to the size desired, and suture it back in place. Sometimes it is well to raise half the flap at one operation and suture it back, then later raise the other half and suture it back. In this way it is possible to secure a richer blood supply, and thus be more certain of a good take.

The belief appears to be prevalent among plastic surgeons that cartilage is the ideal substance for transplantation into the nose. In luetic noses, slight and moderate damage can be corrected by cartilage transplants; but in severe cases in which there is a great deal of scar tissue and the nose is bound down tightly, epithelization is absolutely necessary. To do this, the scar tissue must be freed by one of two methods—external incision around the nostrils or the following technic used by Dr. Sheehan: An incision is made under the lip, the scar tissue is removed, and a Tiersch graft laid over a mold of dental compound and into the raw surface. A specially made prosthesis is attached to the upper teeth and left in for several weeks before the cartilage is transplanted.

A protruding premaxilla can be drawn back a great deal if, shortly after birth, the attending physician will strap a piece of adhesive in the shape of a dumb-bell across the protrusion, with the bells out on the cheeks. If this is kept in place for about six weeks, the benefit will be surprising.

Dr. Jobson (in closing): I trust I did not convey the idea that gaining a subcutaneous entrance to the bridge from the inferior part of the nose is a new procedure. Monk advocated a longitudinal skin incision of the columella years ago, but found difficulty in the use of instruments through it, and abandoned the method. Some operators are using a longitudinal incision at the present time. However, I believe the transverse incision which I advocate overcomes the difficulties encountered in longitudinal and other methods.

A TANGENT-SCREEN SCOTOMETER WITH ILLUMINATING DEVICE*

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PITTSBURGH, PA.

The instrument which I have called a tangent-screen scotometer is made up of two flat disks. The one which may be called the frontal revolves around its central axis; the other is fixed. The frontal disk is covered with a lusterless black cloth, while the posterior disk is covered with white muslin, ruled off on its posterior aspect after the manner of the old curtain style of screen devised by Duane some years ago. The frontal surface of the anterior screen is traversed by a band of inelastic material covered with the same black material as the screen surface itself. This band is really an endless belt which passes across the screen from one side to the other, through the central axis, then behind the screen and back to its starting point. The central fixation point is yellow, and may be varied in size in order to adapt itself to the visual acuity of any given patient.

The so-called object may be of any desired color or size, and is secured to the above-de-

*Read before the Section on Eye, Ear, Nose, and Throat Diseases of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 4, 1927.

scribed band or belt, so that by moving the belt the object is made to travel as slowly or as quickly as may be desired in a radial direction, the radius being changeable at will, by simply revolving the disk on its central axis. If it is desired to explore the field by circumferential movements, as Eliot urges, it is necessary only to revolve the screen. Exact vertical movement may be secured by combining both the revolving action of the screen and the radial movement of the belt at the same moment, using one hand on the belt and the other on the edge of the screen.

The position of the object at any point in the field is noted by thrusting a long pin through both screens. The point of appearance on the posterior or ruled screen is marked thereon, and the pin withdrawn. It appears to me to be a great advantage to have that aspect of the screen which confronts the patient free of all marks or objects which might distract the patient's attention and thus confuse him. At the conclusion of the examination, the ruled posterior aspect of the screen will indicate the size, shape, and position of defects in the field. A permanent record may be made, if desired, by transferring the picture to a reduced replica of the ruled posterior screen.

The illumination is a matter of the utmost importance, as any one who has worked extensively in this field can testify. It is now well known that in the normal individual the size of the color field bears a direct relation to the amount of light admitted to the field. Therefore, in order to obtain uniform results in both normal and abnormal states, it is necessary to use artificial light since daylight varies in intensity from day to day, as well as through different periods of the same day. Of course, the intensity of the light is not important; the vital point is the ability to secure at all times an *unchanging* intensity. It is also advisable to use artificial light of a quality which most nearly approximates daylight, in order that colors may have their normal daylight values.

The question of intensity was easily settled, since Ferree and Rand adopted seven foot-candles as a satisfactory intensity for their perimeter, which is now widely used. Moreover, this is an intensity easily reached. For the purpose of control, we have found on the market a photometer which is sold under the name "foot-candle meter." This instrument is inexpensive, and is sufficiently accurate. Our lamps are portable and are on stands, so that as the lamps diminish in efficiency this fact is discoverable immediately by the meter, and it is necessary only to move the lamp a little nearer the screen. This gives satisfactory control of the *light factor,* and makes for uniformity of results formerly unobtainable.

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ABSTRACT OF DISCUSSION

GEORGE E. DE SCHWEINITZ, M.D. (Philadelphia, Pa.): Dr. Blair's visual-field testing apparatus is an important addition to the ophthalmic armamentarium, combining, as it does, the advantages of the Bjerrum screen and the utilization of small test objects in graded series at a distance of 1.5 or 2 meters, so arranged that the patient sees only these objects and not the carrier, and with a standard illumination. The detection of small central and paracentral scotomata should be greatly facilitated by the use of this instrument.

HELIOTHERAPY IN THE TREATMENT OF TUBERCULOSIS

An Evaluation*

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Any procedure which offers hope for relief or cure of pulmonary tuberculosis should receive thoughtful consideration. Its claims should be viewed impartially and with a receptive attitude, judging by observation and trial whether it has real value.

Notwithstanding the fact that many physicians and many of the laity seem to believe the treatment of tuberculosis is satisfactory, those who see large numbers of the tuberculous sick know that there is vast room for improvement. While both the morbidity and mortality in this disease have been so markedly decreased during the past thirty years that it now ranks third or fourth, instead of first, as it was for so long, it is still the chief cause of death during the most productive time of life—from twenty to thirty-five years of age. There are still too many cases of tuberculosis which terminate fatally, even though all known methods of treatment are used.

Heliotherapy is not a new remedy. Herodotus, who died about 434 B.C., wrote about the Egyptians taking sun baths for the cure of disease. He noted that the musculature improved—an observation which we in this day have foolishly credited to our own clinical perspicacity. The Egyptians also knew that the head should be covered during exposure to the sun. As a remedy in tuberculosis, it seems that Malgat, a French writer, first used sun baths for the pulmonary type in 1902. He exposed only the chest, and after a short time abandoned the treatment, claiming that it did more harm than good.

In 1905, when I spent six months in Colorado

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for my health, the patients in the sanatorium experimented with sun baths. Many of them had hemoptysis following exposure, and some had elevation of temperature. Others who took the procedure gradually and became tanned over the whole body surface apparently had good results. This sporadic plan, without method or medical supervision, was followed all over the world, and brought discredit to the procedure until it was abandoned for the treatment of pulmonary tuberculosis.

After Rollier published his results from the sun cure in the Swiss Alps for extrapulmonary tuberculosis, attention was again drawn to the use of the sun in pulmonary disease. He noticed, in the few cases among the children with bone or joint tuberculosis who also had pulmonary involvement, that a corresponding improvement occurred in the lungs. The weak point in this claim is that they were receiving the same treatment—rest in the open air, forced feeding, etc. —which helps most pulmonary cases.

To the late John Pryor, of Buffalo, belongs the credit of bringing Rollier's methods to this country, and the institution which he fostered at Perrysburg, N. Y., was the first in America to carry out scientifically the methods used so successfully by Rollier, although they have never claimed such optimistically good results as he did. In 1913 Pryor visited Rollier at Leysin, and stayed six months to study his methods. He came back thoroughly believing in the treatment and its gratifying results, and Perrysburg Sanatorium is a monument to his efforts. The work has been continued by LoGrasso, who was trained under and worked with Pryor.

The objective point in heliotherapy is to insolate the skin surface of the whole body with the short actinic rays, producing a coat of pigment or tan, so that the longer heat rays may penetrate more deeply into the tissues of the body.

It has been known for a long time that the rays of the sun will penetrate the body. Finsen, prior to 1904, showed that the rays passed through the skin into the deeper tissues, and Gottiel and Franklin about the same time (1902) proved that they affected photographic plates placed under the body. As Pryor stated, however, it is not known whether, in passing, these rays produce any change, beneficial or otherwise, in the tissues. Both the x-ray and radium penetrate body tissues and, if not guarded, have a destructive effect upon the skin and deeper layers. Tuberculous glands decrease in size when exposed to the x-ray, and suppuration is often avoided. Sunlight also helps this condition, but not so promptly. In addition, there is evidence to prove its beneficial effects in bone and joint tuberculosis, also in tuberculosis of the intestines, which usually means ulceration of the lining of the bowel. In all these localized manifestations of tuberculosis, an increase of a fibrous deposit and an apparent lessening of the toxicity of the disease are noted. Edgar Mayer of Saranac Lake, who has made a special study of this subject, calls attention to the fact that Finsen has proved the value in lupus of the artificial rays given off by the carbon arc light, and Jesionek reported that the mercury quartz light was beneficial in superficial tuberculosis.

Recently McCollum and Hess have proved the value of both sun and artificial rays in rickets of rats and children. In exposing the body to the light, it is also exposed to the air, and many of us are now inclined to give some of the credit to this factor. The name "aërotherapy" has been coined to describe it. On cloudy days and after sun baths the patients are instructed to lie without clothing for a time in the open air, taking care that they do not become chilled.

It is always difficult to give scientific reasons for any form of treatment, even though the results may be satisfactory. We may be said to be still groping in the dark as to why light baths in general help the diseased body. LoGrasso believes that the general condition is improved by an increase of hemoglobin, and has noted a decrease in leukocytosis with a corresponding increase in lymphocytes. He believes it to be the treatment of choice in surgical or extrapulmonary tuberculosis, and that, if it is used judiciously, it will not cause hemorrhages or increase activity in pulmonary tuberculosis. He emphasizes the necessity of avoiding the midday sun during the hot summer, and considers an actively spreading pulmonary lesion or miliary tuberculosis unsuitable for the treatment.

Burns, of Denver, states that heliotherapy promotes healing in four ways: (1) The sun's rays in therapeutic doses have a fatal or weakening effect on bacteria. (2) They stimulate normal tissue to increased exudation and more active fibrosis around the tuberculous focus. (3) They destroy the pathologic tissue in the focus. (4) They have an analgesic effect. In addition, he believes that they have a beneficial general action, increase metabolism, improve skin function, and help to restore immunity. Patients show enthusiasm and coöperate better with the doctor.

The Rollier method of insolation, which, as previously stated, is a gradual exposure until the entire surface of the skin is tanned, is the plan which should be adopted. The exact procedure is as follows: The patient's bed is rolled into the sunlight, the eyes being protected by dark glasses

and the head with a linen cap or bonnet. On the first day only the feet are exposed for five minutes. This is done three times at intervals of an hour, the anterior surface being radiated half the time and the posterior half. The second day the feet are exposed three times for ten minutes each, and the legs up to the knees are given five minutes' exposure for three times. The third day the feet are radiated for fifteen minutes three times, up to the knees for ten minutes three times, and up to the hips for five minutes. The fourth day the feet are exposed for twenty minutes; ankles to knees, fifteen minutes; knees to hips, ten minutes; and abdomen, five minutes. After this time is reached, a new body area is radiated and the doses are increased fifteen minutes daily (five minutes for each period) until the entire body receives an exposure of three hours. A single exposure is limited to an hour and a half, and the total to three hours each day.

On account of the uncertainty of the sun, and especially during the prolonged rainy weather such as has prevailed in the East for two years, we have taken advantage of the various artificial lights which are on the market. All of these contain some of the spectral rays, but no one has as yet invented a lamp which gives out all of the sun's rays. Finsen used the carbon arc light, claiming it was the nearest in composition to the sun. Others prefer the mercury quartz lamp invented by Kromayer. This consists mainly of violet and ultraviolet rays. It is the opinion of most of those who have had a large experience with heliotherapy that the various artificial lights now sold do not approach the sun's rays in remedial value. It has been proved that the violet and ultraviolet rays do not penetrate more than one centimeter into the body tissues. Whether or not this is necessary to promote healing is still in doubt. Exposure of the skin surface to the artificial rays does cause tanning similar to that produced by sunlight, being more marked, of course, in brunets than in blonds.

When this method of radiation was first used, it was thought that the same plan of graduated exposure should be followed as with sunlight. It has been found, however, that there is practically no danger of burns such as are experienced with both the sun and the x-ray, nor of heat stroke, etc. Occasionally a dermatitis will develop, but this subsides after omission of exposures for two or three days. We, therefore, often expose the entire body, except that the eyes are shaded by dark glasses, for ten minutes anteriorly and ten minutes posteriorly the first day. The lamp is fixed at full height, or thirty-six inches from the body. After the skin is tanned, the exposures are gradually increased to thirty minutes anteriorly and thirty minutes posteriorly. The lamp is then lowered twelve inches, and the time reduced by half. The time element becomes very important when large numbers of patients are under treatment. The skin reaction must always be watched and the treatment omitted if a definite dermatitis develops.

Proper ventilation in the treatment room is very necessary. Most of the patients complain of chilliness unless the room is heated, and this often leads to closing of windows and doors, with resultant impure air. In addition, fumes or gases are given off by the lamps which have a tendency to vitiate the air. Efforts have been made to invent a lamp that may be used in the open air, thereby adding the good effect of aërotherapy. Various methods of heating the bed are also being tried, so that the patient may not become chilled while under treatment.

It is easy to understand why sun baths produce better results, as they are given under ideal conditions as to open air, while baths of artificial light are usually given in poorly ventilated rooms. The artificial light obtainable today is inferior in intensity and limited in spectral distribution compared to the sun. There is a deficiency in visible and infra-red radiation, but an abundance of ultraviolet rays. The latter are of shorter wave length and do not penetrate so deeply as do the sun's rays.

For twenty years we have taken advantage of both light and air baths for the patients at White Haven, as have all other sanatoria for the treatment of tuberculosis. During this time we have exposed to direct sunlight all extrapulmonary forms of tuberculosis, such as enlarged glands and affected joints and bones, and for at least six years have included cases with intestinal tuberculosis. I have seen many cases of joint tuberculosis recover, usually, however, with ankylosis. Though Rollier claims full recovery with restored function, this I have rarely seen. Our results with tuberculous glands, especially cervical, have been good, but I still believe that the x-ray is the treatment of choice. We have not had such good results in genito-urinary tuberculosis; neither has the x-ray helped much in this form of the disease. We have often noted remarkable improvement in intestinal tuberculosis, and in some cases cure of the ulceration, but all of these patients do not recover, as has been claimed by some overenthusiasts. We very frequently see the disease, both pulmonary and intestinal, progress to a fatal issue, notwithstanding the fact that various forms of light therapy have been tried.

When favorable results have been attained, we have not, however, given all the credit to light exposures, as in all cases the patient has been at rest, his diet has been regulated to improve his nutrition, and his resistance has thus been raised. No form of light, whether it be sun or an artificial substitute, will be of benefit in tuberculosis if the cardinal principles of rest, diet, pure air, etc., are forgotten.

Since the various artificial lights came on the market, it is astonishing how the irregular cults have taken them up, and as usual are claiming to cure all diseases with which the human body is afflicted. Many physicians have recently invested in lamps, taking the view, and rightly so, that in their hands light therapy will be of more benefit than it is when administered by those who have no medical training. There are probably many diseases and conditions which may be helped or cured by artificial light, but active cases of pulmonary tuberculosis should not be treated by this measure alone. We are constantly seeing patients with an afternoon temperature of from 101° to 102°, night sweats, progressive loss of weight and strength, all due to an active pulmonary process, who for months have been subjected to office treatments by some artificial ray. Often they are required to take a two-hour auto ride to get to the office and are thoroughly exhausted by each trip. Many of these patients are allowed to work either at home or in a factory, being assured that the lamp will cure them, thus neglecting the cardinal principles of healing in tuberculosis.

Our experience with artificial rays dates back about five years and we are still using a quartz mercury lamp as a substitute for the sun. The results thus far bear out the statement that the artificial rays have some value, though we feel it is largely psychic, and may be used as an adjuvant to the regular treatment of tuberculosis. To depend upon any artificial or natural light to the exclusion of those measures which time has proved of value is like closing an abdomen without removing an obviously diseased appendix.

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ABSTRACT OF DISCUSSION

Charles H. Marcy, M.D. (Pittsburgh, Pa.): It is conservatism such as Dr. Armstrong has exemplified in his paper, based on controlled experience, which increases the knowledge of any remedial agent. Heliotherapy has definitely proved its value, but it must be remembered that it is not a specific cure for tuberculosis. Out of the various forms of treatment which have been advocated for this disease, certain fundamentals have been developed which have withstood the test of time, such as rest, proper nourishment, and fresh air. A few years ago it was believed that climate was specific, but it is known now that while it does help, it will not cure without the aid of other means of treatment. The same is true of heliotherapy; it is an aid.

Unfortunately, in most locations, sunlight cannot be used for many months of the year. The various artificial methods of producing ultraviolet light are of value, but they are not so good as sunlight. It is to be regretted that these lamps have fallen into the hands of cultists who have recommended them as cures. We not infrequently see patients who have lost their chance to recover simply because they have been given light therapy over a period of months without utilizing the other fundamentals of treatment. Patients must be impressed with the fact that radiation is only a help, and that they must follow out the other routine methods. If they will do this, light, in selected cases, properly controlled and administered, will be a great adjunct. Otherwise, it will probably be of little value, and may do more harm than good.

MIXED INFECTION IN PULMONARY TUBERCULOSIS*

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The Nature of Mixed Infection

What is spoken of as mixed infection in pulmonary tuberculosis is in many instances an additional infection of a tuberculous lung with pyogenic organisms coming from a primary focus in the upper respiratory tract. Persistence of this secondary pyogenic infection after arrest of the tuberculous process—with continuance of cough, expectoration, toxemia, and even hemoptysis—gives the impression that the tuberculosis has not been healed and often leads to unduly prolonged sanatorium treatment. The strain imposed upon the patient's resistance by this added pyogenic infection not only hinders recovery from the tuberculosis infection, but also renders recurrence of the latter more likely after arrest has taken place.

Diagnosis

The diagnosis of pulmonary tuberculosis is easy when tubercle bacilli are present in the sputum. Symptoms and physical signs simulating those caused by pulmonary tuberculosis may, however, occur in nontuberculous fibrosis or infiltration of the lungs, which frequently involves the apices, as the writer has shown.[1] Conditions pointing more to tuberculosis are increased mus-

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cular resistance or rigidity over the affected region, unilateral involvement, râles limited to one side or to a circumscribed area, increased fremitus and vocal resonance, and marked changes in the breath sounds. The x-ray does not always differentiate the two processes, as many radiologists misinterpret changes produced by pyogenic organisms as tuberculosis.

Infection of the upper respiratory tract is suspected when the patient is subject to frequent attacks of coryza, sore throat, or grip, or has a chronic catarrh, and is confirmed when diseased tissue, pus, or infecting microörganisms are found. Examination by an expert rhinolaryngologist is always required. The absence, however, of macroscopic evidence of disease to direct vision, x-ray, and transillumination does not exclude a bacterial infection, a condition which also frequently persists after tonsillectomy or operations on the sinuses.[2, 3]

By bacterial infection is meant the presence of bacteria pathogenic to the individual harboring them—against which he lacks resistance; not the mere presence of organisms commonly pathogenic to humans. The ordinary culture shows only what organisms are present. The pathogen-selective culture,[4, 5, 6] on the contrary, separates the organisms that are pathogenic to the individual patient, and hence capable of infecting him, from those that are nonpathogenic to him, and to which he stands merely in the relation of a carrier. In this method the inoculation is made both in or on a rich culture medium and also in the patient's whole coagulable blood, which inhibits or restrains the growth of those organisms against which it possesses good bactericidal power, but permits the free growth of those organisms against which its bactericidal power is feeble or absent.

When, in a case of coexisting pulmonary tuberculosis and pyogenic upper-respiratory infection, pathogen-selective cultures are taken simultaneously of the nares, fauces, rhinopharynx, and sputum, rarely will organisms be found in the sputum that are not also found in the upper respiratory tract.

Treatment of the Tuberculous Infection

Recovery from an infection is brought about through destruction of the infecting organisms and neutralization of their toxins by the patient's antibodies. In tuberculosis, treatment is directed to the raising of the patient's general resistance by physiologic measures such as fresh air, sufficient, good, nourishing and assimilable food, proper rest (physical and mental), proper bathing, and when indicated, proper exercise. In addition, the writer frequently stimulates antibody production against the exotoxins of the tubercle bacillus by administering tuberculin O.T., and against its endotoxins by giving tuberculin T.R., regulating dosage in accordance with the patient's degree of hypersensitiveness to each, as determined by graduated intracutaneous tests.[7, 8] This specific therapy has given excellent results in cases not too far advanced, when sufficient improvement did not follow the ordinary hygienic treatment. It is not recommended, however, in the presence of high fever. Local rest of the lung through artificial pneumothorax, or one of the surgical operations, may be used in suitable cases that do not respond to the other measures.

Treatment of the Pyogenic Infection

Hygienic treatment also aids in combating the complicating upper-respiratory infection, although its elimination usually requires removal of diseased tissue and opening, drainage, and aëration of infected sinuses. An operation, however, by temporarily lowering resistance, may permit an exacerbation of the tuberculous or pyogenic infection, or both. The first may often be avoided by postponing operation until after the tuberculosis is under control. Raising the patient's specific resistance against the infecting pyogenic organisms before operation, through the proper administration of a vaccine containing them, will tend to prevent both exacerbation of the pyogenic infection and the occurrence of complications, such as pulmonary abscesses following tonsillectomy and meningitis following sinus operations, at the same time promoting healing at the operative site. To be effective, however, specific vaccine must include the infecting organisms, which alone contain the required antigen, and therefore should consist chiefly of the organisms which pathogen-selective culture has shown to be pathogenic for the patient.[9] To insure inclusion of all infecting bacteria, the nares, tonsils (or tonsillar fossæ), and rhinopharynx should all be cultured in addition to the sputum, inasmuch as the infecting organism may be present on one and not on the others.[2]

When a potent, specific vaccine is administered, each dose must be based on the reaction (general, focal, and local) produced by the preceding dose; not, as is so often the case, with all doses arbitrarily decided upon in advance by the bacteriologist.[9, 10] In a few cases, where marked general and focal reactions follow very small doses, it may be impossible to administer vaccine before operation. Subsequent to operation, however, vaccine therapy in the manner described is always indicated, as in

these cases antibody production seldom progresses satisfactorily without artificial stimulation. After the resistance has been raised sufficiently, it may then be possible also to attack surgically other secondary pyogenic foci that may exist.

A few cases illustrating many of the points brought out are reported briefly.

CASE 1. A man, aged 25 years, was first seen on November 26, 1924, suffering from cough, expectoration, sore throat, dyspnea on exertion, night sweats, slight hemoptysis, weakness, nervousness, and loss of

PATHOGEN-SELECTIVE CULTURES IN CASES OF MIXED INFECTION IN PULMONARY TUBERCULOSIS

Case	Date	Part cultured	Medium employed	Streptococcus	Staphylococcus aureus	Staphylococcus albus	Micrococcus catarrhalis	Pneumococcus	Bacillus pseudo-diphtheriae	Gram-negative bacillus	Bacillus coli	Leptothrix
1	1925 April 8	Nares	Loeffler	..	..	p	p	..	..	..	..	..
			Blood	..	..	p	p	..	..	..	..	..
		Tonsils and rhinopharynx	Loeffler	f	..	p	p	..	p	p	..	..
			Blood	—	..	f	—	..	p	—	..	..
		Sputum	Loeffler	f	p	..	p	..	p	..	..	p
			Blood	f	p	..	p	..	p	..	..	p
	October 20	Nares	Loeffler	..	+	f	f	..	..	..	..	..
			Blood	..	+ +	—	—	..	..	..	..	..
		Tonsils and rhinopharynx	Loeffler	..	+	..	+	..	..	..	..	..
			Blood	..	+ + +	..	f	..	..	..	..	..
2	March 27	Nares	Loeffler	..	..	f	..	..	..	..	..	..
			Blood	..	..	f	..	..	..	..	..	..
		Tonsils and rhinopharynx	Loeffler	f	..	p	p	..	..	p	..	..
			Blood	ff	..	—	p	..	..	—	..	..
		Ear	Loeffler	..	..	..	..	..	..	p	..	p
			Blood	..	..	..	..	..	..	p	..	p
		Sputum	Loeffler	p	..	p	p	p	..	..	..	p
			Blood	p	..	p	p	p	..	..	..	p
		Abdominal sinus	Loeffler	..	..	f	..	..	..	..	p	..
	December 31	Nares	Loeffler	..	+	f	..	..	f	..	..	..
			Blood	..	f	f	..	..	—	..	..	..
		Tonsils and rhinopharynx	Loeffler	..	+	..	+	..	+	..	..	..
			Blood	..	+ +	..	+	..	—	..	..	..
		Ear	Loeffler	..	f	f	..	..	..	..	..	..
			Blood	..	f	—	..	..	..	..	..	..
		Sputum	Loeffler	..	f	..	..	f	f	..	..	..
			Blood	..	+	..	..	f	—	..	..	..
		Abdominal sinus	Loeffler*	..	..	..	..	..	..	..	..	..
			Blood	..	+	f	..	f	..	..	..	..
	1927 January 22	Nares	Loeffler	..	+	..	..	..	..	..	..	..
			Blood	..	+ +	..	..	..	..	..	..	..
		Tonsillar spaces and rhinopharynx	Loeffler	..	+ +	..	..	+	—	..	..	..
			Blood	..	+	..	..	+	f	..	..	..
		Ear	Loeffler	..	+	..	..	..	..	..	..	..
			Blood	..	+	..	..	..	..	..	..	..
		Sputum	Loeffler	+ +	+ +	..	f	+	..	..	..	..
			Blood	+ +	+ +	..	f	+	..	..	..	..
		Abdominal wound	Loeffler*	..	..	..	..	..	..	..	..	..
			Blood	..	+ +	..	..	..	..	..	..	..
3	1926 March 10	Nares	Loeffler	..	f	f	..	..	..	..	..	..
			Blood	..	—	+	..	..	..	..	..	..
		Tonsils and rhinopharynx	Loeffler	+	..	+	f	f	..	..	..	..
			Blood	+	..	+	—	—	..	..	..	..
		Sputum	Loeffler	f	..	..	+	f	f	..	..	..
			Blood	+ +	..	..	f	—	f	..	..	..

p = present. f = few present. ff = very few present. — = absent.
+ = moderate number present. + + = many present. + + + = very many present. * = culture contaminated.

weight. He had been well prior to an attack of influenza six years previously, but since, had been subject to frequent attacks of coryza, sore throat, and cough, which were becoming almost continuous.

Examination showed consolidation of the right upper and middle pulmonary lobes, with softening, infiltration of the upper half of the left upper lobe, myocardial weakness, and an anterior and posterior ethmoiditis. The temperature was 103° and the pulse 124. The sputum contained a very few tubercle bacilli and very many Gram-positive and Gram-negative organisms. After four months' treatment the temperature was normal, the lung condition was improved, and the patient felt fine, but the cough, expectoration, and myocardial weakness persisted, and the pulse rate was 100. No tubercle bacilli were then demonstrable in the sputum, which still contained many Gram-positive and Gram-negative organisms, especially streptococci.

Pathogen-selective cultures were made from the nares, tonsils, rhinopharynx, and sputum, and a vaccine was prepared. Seven organisms were present, six of which grew in the patient's whole blood, Leptothrix being the only one of five organisms in the sputum not present also in the upper respiratory tract. Under vaccine therapy, marked improvement occurred in the cough, expectoration, and nasal discharge. Four months after vaccine injections were begun, the patient was feeling fine and working full time, with his lung involvement remaining quiescent, although his pulse rate was about 104 and his weight had not increased.

Another pathogen-selective culture of the nose and throat taken two months later contained only three of the seven organisms previously present, of which only Staphylococcus pyogenes aureus grew well in the blood. A vaccine prepared chiefly from this was administered over a period of three months, during which time the patient kept at work and gained several pounds. The ethmoiditis became much less pronounced and the mucous membrane assumed an almost normal appearance. His tonsils, however, were diseased and his pulse remained rapid.

The patient passed out of observation for nearly nine months, during which time he had been fine generally, feeling strong and working regularly without tiring, and he had had no cold or cough until a week before he was seen again. At this time his chest showed no activity, but his pulse was still rapid and his weight had not increased. Complete cure could not be expected until after tonsillectomy, which then could be safely undertaken.

CASE 2. A girl, aged 21 years, was seen on March 5, 1925, suffering from advanced bilateral pulmonary tuberculosis of several years' duration, with softening and cavitation, a discharging ear of nine years' duration, an abdominal sinus of three years' duration following appendectomy, and diseased tonsils. A year previously, artificial pneumothorax had been attempted several times, but had been abandoned on account of adhesions. Several phthisiotherapists had predicted that she would not live long. Surgeons had refused to operate on the abdominal sinus, which had been treated unsuccessfully with applications of iodin and injections of bismuth paste.

Pathogen-selective cultures of the nares, ear, rhinopharynx, tonsils, abdominal sinus, and sputum showed seven organisms present. Staphylococcus pyogenes albus was found in all the cultures. The pneumococcus was the only organism in the sputum not present also in the upper respiratory tract. Bacillus coli was found only in the abdominal sinus. No tubercle bacilli were demonstrable in the sputum.

During the next six months a vaccine was administered with dosage very gradually increased owing to marked general, focal, and local reactions, the final dose reaching only 400,000,000. The patient was better then, sitting up and beginning to walk. The temperature was normal, but the pulse was still rapid. Râles were present only in the left base.

Three months later pathogen-selective cultures were taken again, and the Staphylococcus pyogenes aureus, which grew well in the blood, was found in the ear, nares, tonsils, rhinopharynx, abdominal sinus, and sputum. The Staphylococcus pyogenes albus, growing slightly in the blood, was present in few numbers in the nares, ear, and abdominal sinus. The Micrococcus catarrhalis, growing in the blood, was present in the tonsils, rhinopharynx, and abdominal sinus. A few pneumococci, which grew but slightly in the blood, were found only in the sputum. The Bacillus pseudodiphtheriæ was present in the nares, tonsils, rhinopharynx, and sputum, but failed to grow in the blood. Tubercle bacilli were not demonstrable in the sputum on several examinations. A new vaccine was administered, the dose reaching 500,000,000 in a few months.

One month subsequently, tonsillectomy was successfully performed, and one month later, under nitrous-oxid anesthesia, the abdominal sinus was dissected out and a hole in the intestines repaired, the patient being on the table an hour and three quarters. No evidence of intestinal tuberculosis was found. Drainage was instituted, with final closure of the tract after thirteen months. The patient made an excellent and rapid operative recovery. Vaccine therapy was thereupon resumed, the dosage reaching 1,000,000,000 two months after the operation, which dose was repeated several times over a period of six weeks. An ordinary culture of the drainage wound at that time showed only Staphylococcus pyogenes albus. Six weeks later, examination of the sputum showed a few tubercle bacilli. The temperature at this time varied between 99° and 99.8°.

About two months later another series of pathogen-selective cultures were taken, the Staphylococcus pyogenes aureus, which grew in the blood, being the chief organism present in the nares, ear, tonsillar spaces and rhinopharynx, abdominal drainage wound, and sputum. Pneumococci, growing in the blood, were present in the sputum and also in the tonsillar spaces and rhinopharynx. In the sputum were also a large number of streptococci, growing well in the blood, and a few Micrococci catarrhalis. The tonsillar spaces and rhinopharynx harbored a few Bacilli diphtheriæ which did not grow in the blood. A new course of vaccine was given, the dose reaching 1,000,000,000 in four months (May 15, 1927), which dose was repeated at very long intervals.

The patient is not yet well. Last August she weighed 132 pounds—her highest weight, 45 pounds above her lowest weight. Her sputum, examined September 15, 1927, contained some organisms, especially streptococci, but tubercle bacilli were not demonstrable.

CASE 3. Nearly fifteen years ago I first saw a man, aged 25 years, who had advanced bilateral pulmonary tuberculosis with softening and hemoptysis. His pulse was 124 and his temperature 101°. After two months' treatment with rest and other hygienic measures, with tuberculin B.E. in very minute doses, beginning with one ten-millionth of a milligram, and with appropriate drugs, his pulse had dropped to 75 to 85 and his temperature to 99°, and he had gained enormously in weight.

He then disappeared from view until nearly eight months later, when he had several severe hemorrhages.

Two weeks later he got out of bed and went to work and I did not see him again for six months. He had kept well and at work, but his lungs then showed activity. Thereafter, I saw him at intervals of six months, one month, two and a half months, five and a half months, three years, five years (when I saw him more or less frequently over a period of one month), and two years respectively. He would develop "colds" at intervals of several months or years, sometimes with hemoptysis, and, if particularly alarmed, would have me see him, always stopping treatment before I discharged him. On every examination râles were heard. Between these acute exacerbations he kept fairly well and worked very hard.

Three years ago he went to work the day after a hemoptysis of about a pint and, although he had another hemorrhage two nights later, he still went about, having a hemorrhage of about six ounces the following evening. The next morning he got out of bed to go to the bathroom and had another hemorrhage. I attended him for about a month until the attack was over, and then did not see him for another fourteen months, until February, 1926. Both lungs then showed softening, some cavitation and activity, although the temperature was 98.2°, the pulse 92, and the respiration 16. I concluded that a mixed upper-respiratory infection must be partly responsible for the activity in the lungs. Dr. Ridpath found diseased tonsils and an infection of the bulla—the largest ethmoid cell—on the left side, and said it would be necessary to open and curet this, also to remove the tonsils, before results could be expected from vaccine.

Pathogen-selective cultures showed streptococci in the tonsils and sputum, growing very well in the blood, and Staphylococcus pyogenes albus in the nares and tonsils that grew fairly well in the blood. The tonsils and sputum also contained the pneumococcus and Micrococcus catarrhalis which grew poorly or not at all in the blood. In addition, the sputum contained a few Bacilli pseudodiphtheriæ which grew slightly in the blood. A smear of the sputum showed tubercle bacilli in moderate numbers. Desiring to raise the patient's resistance before subjecting him to an operation, I began the administration of vaccine, which I had to suspend on account of the marked general and focal reactions it produced. The local reactions were very slight.

The patient had a number of severe hemorrhages beginning May 2, 1926. At first, despite warnings, he would go to work a day or two after the hemoptysis, but finally he became frightened and remained in bed. The hemorrhages continued, nevertheless, despite physiologic measures, drugs, hemostatics, and repeated artificial pneumothorax, which was difficult on account of adhesions. Pieces of tissue and blood that were expectorated in a particularly severe hemorrhage on June 5th were examined and found to contain some epithelial cells, polynuclear pus cells, and some Gram-positive and Gram-negative organisms, especially pneumococci, but no tubercle bacilli. This seemed to indicate that the lung destruction was due chiefly to organisms other than the tubercle bacillus and that pulmonary healing was impossible in the presence of the tonsillar focus. Tonsillectomy accordingly was performed. Pathologic examination showed chronic lacunar tonsillitis. Smears of the tonsils showed Gram-positive cocci and bacilli. Culture showed Streptococcus hemolyticus. Two guinea pigs inoculated with tonsilar tissue failed to develop tuberculosis.

The patient made a normal operative convalescence, but some days later began again to have pulmonary hemorrhages, the last proving fatal. While the patient's activity in the presence of hemoptysis hastened, if it did not cause, his death, yet had his tonsils been removed and his ethmoid sinus been opened and curetted, and a course of pathogen-selective vaccine been given prior to the series of severe hemorrhages, the latter might have been prevented.

If the breaking down of the lung had been due chiefly to tuberculous infection, it is not likely that the patient could have continued at work in fairly good health, except for occasional relapses, for thirteen years, with numerous râles always present in both lungs, nor that the coughed-up blood and tissue would have been free from tubercle bacilli. I believe that the pyogenic organisms present in the upper respiratory tract were the principal cause of the destructive process in the lung and of the failure to heal.

Summary

1. What is spoken of as mixed infection in pulmonary tuberculosis is, in many instances, an additional infection of a tuberculous lung with pyogenic organisms coming from a primary bacterial focus in the upper respiratory tract.

2. Treatment of the tuberculous condition consists in raising the general resistance by means of hygienic measures and sometimes also in raising specific resistance by means of tuberculin, with dosage based on the patient's hypersensitiveness to both the exotoxin and the endotoxin of the tubercle bacillus.

3. The pyogenic infection is treated by removal of infected tonsils and by opening, drainage, and aëration of infected sinuses, preceded and followed by raising of specific resistance through the administration of a vaccine, consisting chiefly of those organisms present that are pathogenic to the patient, as determined by pathogen-selective culture.

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THE DIAGNOSIS AND TREATMENT OF MENINGITIS IN CHILDREN*

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Meningitis may result from the invasion of the meninges by a great variety of microörganisms. In the acute types the commonest causative agent is the meningococcus of epidemic cerebrospinal meningitis. Next in frequency are found the pyogenic organisms (streptococcus and staphylococcus), usually from otitis or sinus disease. The pneumococcus, influenza bacillus, the bacillus of Friedländer, micrococcus catarrhalis, bacilli of the colon group including typhoid, and, rarely, the malarial plasmodium or the spirochete of syphilis may cause acute meningitis. In the chronic type of the disease by far the most frequent agent is the tubercle bacillus. Occasionally chronic meningitis is caused by the spirochete of syphilis or one of the microörganisms already mentioned, particularly the meningococcus.

PRODROMAL SYMPTOMS

Meningitis of certain types is definitely recognized as being a secondary or terminal process—especially so with pneumococcic, influenzal, and tuberculous types. Since the work of Herrick,[1] it should be recognized that in all epidemics of meningococcic infections the meningitis is apt to be secondary to the general blood infection, and that in both the fulminating and the abortive cases there may be no meningitis at all, as proved by negative findings in the spinal fluid and by necropsy in fatal fulminating cases. Therefore, in all epidemics, one should be on the lookout for early symptoms, especially of sepsis. Certain symptoms and physical signs are common to all forms of meningitis, though their intensity, frequency, and time of appearance differ somewhat in the various types of the disease. The most important of these are fever, with its attending phenomena, convulsions, somnolence or stupor, vomiting of the cerebral or projectile type, tache cérébrale and other eruptions, stiffness and retraction of the neck, rigidity of the back and extremities, cranial nerve involvement, increased knee jerks, Kernig's and Brudzinski's signs, and, in infants, a bulging fontanel. Finally, and most distinctive, are the changes in the spinal fluid. In infants, especially, there may be no symptoms nor physical signs that point definitely to meningitis; so that in any unexplained severe febrile illness, a lumbar puncture should be done.

It may be well to discuss in some detail certain of the above symptoms. As regards the fever, in the acute forms a rise of temperature is apt to be abrupt, reaching 103° or 104°, whereas in the chronic types there is only a low-grade fever at the onset with gradual rise and variation as the disease progresses. The vomiting in the acute types is apt to occur only in the beginning. In the chronic cases it may be a feature throughout the course of the disease and is often not projectile. In tuberculous meningitis, often one of the first signs of the oncoming illness is occasional vomiting without cause, along with almost complete anorexia, especially in young infants. The stiffness and retraction of the neck, though occasionally intermittent, are particularly marked in the acute types of the disease but present in increasing degree in the chronic forms. Rigidity of the extremities and back is nearly always present in the acute forms, but in the chronic type of the disease may be absent entirely, or appear at intervals, or only late in the disease. The involvement of the cranial nerves, especially the oculomotor and facial, is particularly characteristic of tuberculous meningitis, in which the exudate and inflammation occur principally at the base of the brain around the nuclei of these nerves. In the acute and purulent types of meningitis when most of the inflammation is on the convexity of the brain, cranial nerve involvement is very infrequent.

The Kernig sign is a very important diagnostic phenomenon, but must be elicited with much care. It is important that the child be quiet and relaxed, for voluntary or involuntary contraction of the flexors of the thigh will interfere with proper examination. The child should be lying on the back and the thigh flexed to a right angle with the spine; then the leg should be gradually and gently extended on the thigh. If there is marked resistance in the hamstring muscles to extension beyond 135 degrees, the sign is counted as positive. Frequently it is present on one side and not on the other, and in tuberculous meningitis it is often absent throughout the entire course of the disease—a point which may be useful in differential diagnosis.

Brudzinski's phenomenon is, in my opinion, one of the most significant signs of involvement of the meninges. It is pathognomonic of increased intracranial tension, and usually disappears with the withdrawal of sufficient cerebrospinal fluid to decrease the tension in the fontanel to normal. In the examination for Brudzinski's sign, also, it is very important that the child should be entirely relaxed. One hand should be placed on the upper part of the chest, with the child lying flat on the back, legs extended; with the other hand the neck is very gently flexed so as to bring the chin upon the

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chest. If the sign is positive, there is a rather rapid flexion of one or both thighs and evidence of pain is manifest. Occasionally, even when this sign is absent, the reflex known as the contralateral sign is present. This is a flexion of the thigh and leg on one side when the opposite thigh is forcibly flexed upon the abdomen.

To elicit the knee jerks the legs must be relaxed. They are often not at all exaggerated in tuberculous meningitis.

The tache cérébrale is also quite an important sign of involvement of the meninges, meaning, as it does, some serious interference with the vasomotor centers. It can occur in other conditions than meningitis but very seldom. The characteristic of this sign is the gradual appearance of an irregular redness on either side of a fingernail scratch mark, usually more prominent on the abdomen than on the thighs, the mark being irregular in outline and at least one centimeter in width. It is more conspicuous in tuberculous than in other forms of meningitis, and is shown also on the parts of the body where there is pressure, particularly on one of the cheeks, the knees, the hips, or the elbows, this without any other stimulation than the pressure.

The bulging of the fontanel in infants is, of course, definite evidence of an increased amount of cerebrospinal fluid, and the degree of bulging naturally varies with the amount of pressure. When this is very great, the normal respiratory and cardiac pulsations of the fontanel are lessened or may be absent. It must be emphasized, however, that meningitis can be present without any bulging of the fontanel, and even when the pulsations of both the heart and the respiration can be felt in the fontanel.

Whenever, in the examination of a child, there are found stiffness or retraction of the neck, Brudzinski's sign, and Kernig's phenomenon, or even with only the stiffness and Brudzinski's, a lumbar puncture is indicated. It is most important that the spinal fluid be examined early, for the favorable results from treatment of the types of meningitis susceptible to successful serum therapy are in proportion to the early administration of the serum. For making the puncture, a good-sized needle without too sharp a point is necessary. If the needle is small, a thick fluid cannot flow out, and the needle is more apt to become clogged, and if the point is very sharp, there is much more danger of puncturing the veins on the front wall of the canal. It is well, if the pressure is very great—as indicated by the tenseness of the fontanel—to have a piece of rubber tubing attached to the needle, so that the outflow may be regulated and too sudden release of pressure prevented. The patient should always be lying down, and it is perhaps most convenient for a right-handed operator to have the child lying on the right side. The spine should be flexed, and a very satisfactory method of accomplishing this is by tying a folded sheet around the neck and under the flexed knees. In this way the arching forward of the back can be maintained so as to separate the spinous processes of the vertebræ.

It is very seldom necessary to administer a general anesthetic, for the skin of the back is not very sensitive, and if the skin puncture is made rapidly there is very little pain. Locally, the ethyl-chlorid spray may be used. An area three inches in diameter is painted with iodin at the lower lumbar spine, and iodin may also be used to mark the crests of the ilia on both sides. The site for puncture should be the space between the spines which most closely corresponds to the line drawn between the crests of the ilia. With the left forefinger nail pressed deep between the fourth and fifth lumbar spines as a guide, a carefully sterilized needle is inserted quickly through the skin, but after that very slowly down to and through the posterior spinal ligament. One can readily tell when this has been passed through by a lessening of the resistance. In young infants the needle seldom has to be inserted more than one half or three quarters of an inch, and it is much better to make trials at different depths by withdrawing the stylet than to pass the needle in too far with the first attempt, for the reason that it is most important not to draw blood by puncturing the veins on the anterior surface of the spinal canal. When the stylet is withdrawn, there is usually a quick spurt of spinal fluid. If the pressure is very great, the tube can then be attached and held in an elevated position so that the flow of spinal fluid can be regulated. Separate portions should be collected in different tubes for examination, and in case the spinal fluid is clear, the last tube, especially, should be centrifuged for tubercle bacilli, inasmuch as the last flowings are more apt to contain the organisms. Moreover, even in the other forms of meningitis, the last tube is apt to contain the greatest number of organisms. If the fluid does not flow freely and one is sure that the needle is not clogged, the head and shoulders may be gently raised and the head extended and flexed two or three times. This frequently promotes a flow. When the fluid comes out slowly by drops, sufficient has been drawn. Seldom should more than 50 c.c. be drawn off at the first puncture.

In the examination of the spinal fluid, the most important things to determine are whether there is an increased amount and whether the

fluid is clear or turbid. If it is turbid, the greatest possibility is that the disease is due to the meningococcus, although it may be due to any one of the other pus-forming organisms, especially the pneumococcus, influenza bacillus, or the pyogenic organisms. Occasionally a turbid fluid is found in poliomyelitis. If the spinal fluid is clear, it is then most likely an evidence of either tuberculous meningitis, meningism, or encephalitis. The examination of the fluid for its globulin and carbohydrate-reducing substance, the cell count with the differentiation of the polynuclears and mononuclears, examination of smears for organisms, and the culture of the fluid are all very important for diagnostic criteria.

Clear fluid should always be set aside for a number of hours in an incubator to see whether or not a film will form, for in this film are apt to be entangled any tubercle bacilli which may be present. This facilitates the finding of the bacilli. In general, the characteristic findings in the spinal fluid which is tuberculous are an increased quantity of fluid, an increased amount of globulin, a positive Fehling's reaction in the early stages, with absent Fehling's in the later stages of the disease. The cells are increased in number to perhaps 400 or 500 and are usually all mononuclear. Occasionally, however, a large proportion of polynuclears will be found. If the clear fluid is due to meningism, an increase in the globulin or number of cells is seldom found. If the latter condition is present, generally there are not more than 20 or 30 cells per cubic millimeter. If the fluid is that of encephalitis, there may or may not be an increase in the globulin; the cells are increased, but seldom above 150 or 200, usually between 50 or 100 per cubic millimeter; and the sugar content is higher than in any other type of cerebral or meningeal affection, though cerebellar tumor, meningism, and bulbar poliomyelitis often show high sugar in the spinal fluid.

If the fluid is turbid, the cells are apt to be very greatly increased in number and to be largely polynuclear. Occasionally, turbid or opalescent fluid may be found in poliomyelitis. The number of the cells indicates the amount of inflammatory reaction in the meninges and is a good criterion of the progress of the disease, a lessening in the number of the cells being a favorable sign. Examination should be made for organisms by both smear and culture, but it is always safest, if signs of meningitis are present and a turbid fluid is found, to inject anti-

THE CEREBROSPINAL FLUID IN NORMAL AND IN ABNORMAL CONDITIONS OF THE MENINGES*

Meningeal Condition	Increased Pressure	Cloudiness	Number of Cells	Type	Protein	Sugar, Qualitative	Sugar, Quantitative, Mg. Per 100 c.c.	Relation to Blood Sugar, Per Cent
Normal	0	0	1 to 10	Lymphocytes	Trace	Present	40 to 65	40 to 65
Meningism	+	0	10 to 90	Lymphocytes	Normal or slight increase	Normal or increased	40 to 65 or to 100	Normal or increased
Epidemic encephalitis	0 or +	0	20 to 100 or to 200	Lymphocytes	Much increased	Greatly increased	40 to 100	Usually increased
Tuberculous meningitis	± to +++	0 to ±	80 to 1000	Lymphocytes; occasionally polynuclears	Much increased	Present	35 to 45 0 to 35	0 to 35
Poliomyelitis, bulbar	+ to ++	0 to +	100 to 1000	Lymphocytes	Much increased	Present	40 to 120	Usually increased
Poliomyelitis, spinal	+ to ++	0 to +	100 to 2000	Lymphocytes or polynuclears	Much increased	Present	40 to 80	Normal
Epidemic or meningococcus meningitis; also other purulent types of meningitis	++	+ to ++	500 to 5000	Polynuclears	Much increased	At first present; later absent; increases with improvement	0 to 60	0 to 60

*This tabular statement of the changes in the spinal fluid has been adapted from the findings of Dr. John D. Lyttle, of New York, to whom grateful acknowledgment is made for permission to reproduce his figures concerning the sugar content and its relation to the blood sugar.

meningococcus serum at once, if possible. No harm can be done by this procedure, even if the disease is not due to the meningococcus. The finding of Gram-negative diplococci, either intra- or extracellular, is, of course, diagnostic of the common form of the disease. Turbid fluids are apt to give a negative Fehling's reaction from the outset. As the turbidity lessens and the cells become fewer, Fehling's reduction reappears and is a favorable sign. The lessening of the organisms, particularly those in the cells, or the disappearance of the organisms from the spinal fluid is the most favorable indication of progress.

It should be emphasized that even in cases of otitis media, sinusitis, or other infection due to pyogenic organisms, also in pneumonia of pneumococcic origin, a complicating meningitis may be due, not to any of these germs, but to the meningococcus. The same holds true of the meningitis that occasionally complicates influenza or influenzal pneumonia, so that a lumbar puncture and study of the spinal fluid is most important. The great advantage of early lumbar puncture, even in rather obscure cases with only indefinite signs of meningitis, is well demonstrated by the record of a child seen in consultation some years ago.

Case 1. The patient, a boy aged three and a half years, was taken sick on June 8th, with a temperature of 105°, and vomiting. Gastro-intestinal symptoms of vomiting and foul bowel movements persisted for about a week. The pulse was peculiarly irregular and slow with irregular respiration, but at first there was no Kernig sign and the reflexes were normal. Later, a fever, almost typical of tertian malaria, supervened and lasted for several weeks. There was some headache and usually pain before the sudden rise of temperature, and at times when the temperature was high, the Kernig sign would be positive. There was occasional projectile vomiting. I saw the child on August 14th, over two months after the beginning of the symptoms. At that time he was hypersensitive all over the body and had markedly positive Kernig and Brudzinski signs. The differential blood count showed only 60 per cent polynuclears, the urine was negative, and there had been no pus in it at any time. On account of the hypersensitiveness and the positive Kernig and Brudzinski signs, a lumbar puncture was insisted upon, and the spinal fluid showed increased pressure with very marked reaction to globulin and albumin, and a large number of cells, mostly mononuclear. In the first puncture fluid, no meningococci were found. Later punctures, done on account of the increase in pressure and globulin, demonstrated the presence of the meningococcus. Serum treatment was instituted, and the boy made an absolutely perfect recovery. Had this treatment not been given, he would undoubtedly have succumbed sooner or later to chronic basilar meningitis, or to the malnutrition which it induces.

Other illustrative cases are the following:

Case 2.—K. S., aged four and a half months, was admitted to the hospital on October 3d and discharged cured on October 28th. For two days there had been fever, vomiting, and stiffness of the arms and legs. On the morning of admission the patient became rigid, with head turned to the right side. This stiffness lasted almost half an hour. Then there was vomiting and the breathing became labored. One hour after admission I examined the baby in the presence of the staff. There was no bulging of the fontanel, which pulsated with the heart and diaphragm, no stiffness or retraction of the neck, no Kernig or Brudzinski signs, nor any tache cérébrale. The heart sounds, rate, and rhythm were normal for the temperature, which was 102° F., and the general condition was good. Except for the history, there was no indication at the time for a lumbar puncture.

In the afternoon, while in the mother's arms to nurse, the baby had a slight convulsion. Thereafter the reflexes were found to be exaggerated, and Brudzinski's sign was present. There was no bulging of the fontanel. Upon making a lumbar puncture the next morning, 40 c.c. of turbid fluid was withdrawn and 25 c.c. of antimeningococcus serum injected. The spinal fluid was cloudy, with 2,193 cells (polynuclears), the globular reaction was positive, and the sugar was only 0.022. The Wassermann and colloidal-gold reactions for syphilis were negative. A second injection was made the following day, when the spinal fluid was found to be improved, the number of cells being reduced to 1,630 (85 per cent polynuclears). Both fluids showed meningococci. Except for slight pyelitis and otitis, the convalescence was uneventful. On October 18th, a few days before discharge, the spinal fluid showed no growth of organisms.

Comment: This is a case in which the ordinary signs of meningitis were either lacking or intermittent. Undoubtedly, the early lumbar puncture and prompt administration of antiserum greatly influenced the outcome.

Case 3.—X., aged 11 months, was admitted to the hospital on October 19th and discharged cured November 6th. For eight days the child had a slight cough and fever, with occasional stiffness of the neck. It was drowsy and refused food, but did not vomit. Examination showed no Kernig sign, hyperactive knee jerks, positive Brudzinski sign, and a temperature of 103½° F. Upon making a lumbar puncture, 35 c.c. of cloudy fluid was withdrawn under slightly increased pressure, and 25 c.c. of antiserum given. The child was very fretful before the puncture, but fell asleep immediately afterwards. Antiserum injections were made again on October 20th—30 c.c. into the spine and 10 c.c. into the buttocks; and on October 21st, at 12 noon and 6 p. m., 30 c.c. was injected into the spine. The spinal fluid first withdrawn, on October 19th, showed 1,400 cells (88 per cent polynuclear) and increased globulin. By October 21st, the cells were reduced to 166, and there was no growth of meningococci from any of the fluids.

Comment: This patient was cured by injections, although the meningococcus was not found.

Differential Diagnosis

Meningitis must be differentiated from meningism, poliomyelitis, and lethargic or epidemic encephalitis. In reaching a decision, it is helpful to consider such factors as the season of the year, the presence of an epidemic, and the immediately preceding illnesses of the patient, in addi-

tion to the clinical symptoms, their severity and order of appearance, and—most important—the spinal-fluid findings. Nearly always the acute forms of meningitis will be differentiated from any of these three conditions by the turbidity of the spinal fluid and the large number of polynuclear cells. The commonest of the chronic forms of meningitis, the tuberculous, is the one that often requires painstaking observation and study to differentiate it from the three conditions just mentioned.

Meningism, or serous meningitis, may occur at any time of the year, and is most apt to arise in the course of pneumonia, severe otitis media, or mastoid infection, occasionally with gastroenteritis, or in the course of convulsions from any cause, but especially whooping cough, and rarely with mumps. The chief symptoms of meningism are: convulsions, rigidity of the neck, Kernig and Brudzinski signs, and occasionally tache cérébrale. The spinal fluid is clear, though often increased in quantity; very rarely is there any increase in the number of cells or in the globulin; Fehling's solution is reduced; but no organisms are found.

Poliomyelitis of the cerebral type occurs during an epidemic, usually in the late summer or early fall. Occasionally it may appear sporadically at any time of the year. It is not a complication of any other disease. The chief symptoms are moderate fever, headache, general hypersensitiveness, pain in the limbs, stiffness and retraction of the neck and back, and often temporarily increased knee jerks. The spinal fluid is increased and nearly always clear, though it may be opalescent. There is increased globulin and the cells are very numerous, usually mononuclear but at times polynuclear. Fehling's solution is generally reduced. No organisms are found on ordinary examination.

Lethargic, or epidemic, encephalitis usually occurs during the winter and following epidemics of grip. The chief symptoms are headache, somnolence or stupor, great weakness, slow speech, ptosis or diplopia, catatonic condition of the extremities, and frequently fibrillary twitchings of the muscles. The spinal fluid is clear, though increased in quantity. There is seldom any increase in the globulin. The cells are increased, but not more than 200, and usually between 50 and 150. Practically all are mononuclears. Fehling's solution is reduced, and the amount of sugar is greater than in any of the other meningeal affections.

Tuberculous meningitis may appear at any time of the year, but most often in the spring, and in children between one and three years of age. The patients are usually well nourished, not emaciated as might be supposed. The onset is gradual, marked by low-grade fever, frequently by loss of appetite, or occasionally unexplained projectile vomiting. There is a change in the disposition, with alternating periods of irritability and drowsiness, gradual development of stiffness of the neck, retraction of the head, tache cérébrale, marked irregularity and slowing of the pulse, and irregularity of respiration. Involvements of the facial and sixth nerves are apt to occur early, especially the latter, giving internal strabismus. Ptosis or diplopia is seldom present, thus helping to distinguish the disease from encephalitis. The spinal fluid, aside from the increased globulin, contains a greatly increased number of mononuclear cells, far more than are present in encephalitis. As the disease progresses, the slowing of the pulse due to stimulation of the vagus nerve is lost, because of the gradual paralysis of its cardio-inhibitory fibers, and the heart rate again becomes rapid and regular. Meanwhile the respirations continue to be irregular and of the Cheyne-Stokes or Biot type.

Neither of these changes, in the heart or respiration, is apt to take place with poliomyelitis or encephalitis. However, on account of the similarity of many symptoms and the coincidence in the spinal-fluid findings, it may at times be exceedingly difficult to make a differential diagnosis for several days between poliomyelitis and tuberculous meningitis, and especially between encephalitis and tuberculous meningitis. Therefore, at the time of an epidemic of encephalitis, one should be extremely cautious about diagnosing tuberculous meningitis, unless the symptoms are progressively worse and the spinal-fluid findings not incompatible. The increased sugar in the spinal fluid during encephalitis may help in differentiating this disease. Before making the diagnosis of tuberculous meningitis, either the bacillus should be found, or the clinical signs and course of the disease should be definitely characteristic (see table).

Complications and Prognosis

In the cases of meningitis that survive, complications in other parts of the body are quite rare. In the epidemic form of the disease, before intraspinal serum treatment, deafness often and blindness occasionally were seen in the few patients who recovered. Since the advent of the serum treatment, deafness is very rare, but once in a while a complication occurs in the eyes in the form of purulent iridochoroiditis. I have seen three instances of this unusual condition: once it was bilateral in a fatal case, and in the other two cases the patients recovered with loss of sight in one eye. In the course of this com-

plication pus could be seen in the anterior chamber; then gradually the media became opaque and vision was lost.

Bovaird[2] records the case of a girl 15 years old who, twenty-four hours after the vomiting of onset, had stupor and a fever of 104° with profuse purpuric spots (from one mm. to two cm. in diameter), not only all over the face and body, but also in the pharynx. Lumbar puncture was negative. Six days later there was iridocyclitis of the right eye, and the blood culture was positive for meningococci. The cornea became hazy, and pus formed in the anterior chamber. The treatment consisted of antimeningococcus serum injected both subcutaneously and intraspinally. The girl recovered, but lost the sight of the affected eye. This case shows that meningococcus septicemia can occur without any meningitis, and that the systemic circulation may be the pathway by which the organism reaches the meninges or the internal tissues of the eye—a complication which has been regarded as occurring only with meningeal involvement.

McLean and Gilmartin[3] report a case of meningococcus meningitis with general blood infection and iridochoroiditis in which there was complete restoration of vision following vigorous intraspinal and intravenous injections of antimeningococcus serum. In influenza-bacillus meningitis I have seen invasion of the small joints of the extremities, of the spine, and of the ends of the clavicle by the Pfeiffer bacillus, as part of the general infection, causing pus to form in all these joints. In the epidemic form, many cases of joint involvement have been reported, especially by Herrick.

The prognosis of meningitis is distinctly unfavorable except for those types of the disease that are susceptible to specific serum treatment. Tuberculous meningitis has a hopeless prognosis in spite of the occasional recovery of a patient in whose spinal fluid tubercle bacilli have been found. In 1920 Hollis and Pardee[4] reviewed the literature and found reports of thirty-six cases of recovery in which the diagnosis of tuberculous meningitis was made, either by finding the tubercle bacillus in the spinal fluid, or by guinea-pig inoculation followed by tuberculous lesions in the animal. The youngest patient in the cases reported by Barth was a girl thirty-two months old. Jemma reported recovery in a boy aged three and a half years, and Gareis in a boy of eight years. Hollis and Pardee gave the details of four personal cases, two of which were proved by finding tubercle bacilli in the spinal fluid. In 1921, Byard reported recovery in an infant treated at St. Mary's Hospital, with identification of the tubercle bacilli found in the spinal fluid confirmed by four pathologists.

In a recent issue of *Münchener medizinische Wochenschrift,* Wiese reports the recovery of one of his patients in 1921. A ten-year-old girl, after a year of surgical treatment for multiple bone-joint tuberculosis, suddenly developed the typical picture of meningitis with tubercle bacilli in the spinal fluid and urine. Treatment, begun on the fifth day of the disease, consisted in withdrawing 60 c.c. of spinal fluid and reinjecting 3 c.c. of the same into the buttocks, while one c.c. of old tuberculin (1 to 1,000) was injected into the spinal canal. The child was desperately ill at the time, but she slept quietly that night, and the next day the symptoms of meningitis disappeared. Upon her recovery it was found that she had tuberculosis of the right kidney, for which nephrectomy was performed five months later. Rapid improvement ensued, so that in five months the child was clinically cured of all tuberculous foci and was in excellent physical condition.

The treatment in these cases was varied, but the common factor in all was repeated lumbar puncture. Hollis and Pardee used intraspinal injections of antimeningococcic serum. In addition, intraspinal injections of one-per-cent iodoform, of various silver salts, and of tuberculin were given, and enormous doses of potassium iodid were administered internally.

There are on record, therefore, a number of cases of recovery from a disease in which meningeal symptoms were present and the spinal fluid contained tubercle bacilli. Were these cases of true tuberculous meningitis? If they were, they must have been peculiar types in which there was not a generalized but a localized meningitis, or cases of tuberculoma with a local meningitis from which a few bacilli passed into the spinal fluid. In spite of these reported recoveries, then, we must regard tuberculous meningitis as 99.9 per cent hopeless—absolutely so in infants and young children.

Syphilitic meningitis is amenable to treatment. Neosalvarsan is given intravenously, and one hour later spinal fluid is withdrawn by lumbar puncture. Tapping of the spinal cord two hours after this procedure has revealed the presence of arsenic in the spinal fluid. There is danger, however, of severe mental impairment in these cases.

Pneumococcus meningitis is practically always fatal. From staphylococcus and streptococcus meningitis there is an occasional recovery, more having been reported of recent years. The same may be said of influenza meningitis if treated with anti-influenza serum.

Alexander has reported the recovery of a case

of streptococcus meningitis secondary to mastoiditis following the opening of the adjacent dura. Netter and Tedesco report recoveries following intraspinal injections of colloidal silver, and Du Bois and Neal[5] report recovery of a case following the use of streptococcus serum injected both intraspinally and intravenously, together with the subcutaneous injection of streptococcus vaccine. Recoveries from hemolytic-streptococcus meningitis have been reported by Acker and by Heiman, following repeated lumbar punctures; and Sanders, from one of the army camps, reported a recovery following the use of autogenous serum intraspinally. Leighton and Pringle[6] report two cures from employing lumbar laminectomy and drainage, according to the method suggested and used successfully by Barth in three cases. Haynes and Kopetzky[7] advocate cerebellar decompression and drainage of the cisterna magna, but recoveries have not been reported by them nor by anyone else who has used this method. The prognosis, then, is generally grave under any form of treatment, but the most promising procedure is that proposed by Neal—repeated lumbar punctures and the use of antistreptococcus serum intravenously and intraspinally.

Staphylococcus meningitis occurs much less frequently than the streptococcic variety. I have seen one recovery following the use of antimeningococcus serum and I know of a second case. Neal has reported recovery in a case treated by intraspinal injections of staphylococcus vaccine.

Influenzal meningitis occurs with much greater frequency in infants and very young children than in older persons, and is recognized as a late complication secondary to the general infection by the Pfeiffer bacillus. It has been definitely recognized only since 1899. Among 692 cases of purulent meningitis studied in ten years by the meningitis division of the New York Department of Health, 32 were due to the influenza bacillus, 541 to the meningococcus, 61 to the pneumococcus, 49 to the streptococcus, and 9 to the staphylococcus. Recoveries reported during the ten years 1911 to 1920 amounted to 13 in 158 cases of influenzal meningitis, death being due in the fatal cases, according to Wollstein, to a general blood infection. The best treatment is the use of anti-influenza serum intraspinally and intravenously, and also influenza vaccine intraspinally and subcutaneously. Dr. Neal reports one case in a child two and a half years old, in which influenza vaccine alone was given intraspinally seven times, with resulting disappearance of the influenza bacillus from the spinal fluid.

The meningococcic or epidemic type of meningitis offers the best prognosis. Before serum treatment was instituted, 70 to 80 per cent of the cases were fatal, with seldom a recovery in patients under one year of age. Since use of the serum treatment, recoveries average from 70 to 80 per cent, while the mortality under one year has been reduced to about 50 per cent.

Treatment

Meningism is treated by repeated lumbar puncture to relieve the intracranial pressure, and by operation for the otitis, mastoiditis, or sinus inflammation which may have been the original exciting cause. As already indicated, the treatment for syphilitic meningitis is the use of neosalvarsan intravenously, followed by withdrawal of spinal fluid one hour later. There is no curative treatment for tuberculous meningitis, but repeated lumbar punctures relieve the most distressing symptoms. For pneumococcus and streptococcus meningitis, the respective antisera should be used, both intraspinally and intravenously, together with vaccine subcutaneously. Transfusion also may be helpful in these cases. Staphylococcus meningitis may well be treated by the use of antimeningococcus serum and staphylococcus vaccine. Several recoveries have been reported, perhaps due to the nonspecific reaction of the body to the foreign protein, resulting in increased phagocytosis by the leukocytes in the spinal canal. In influenza meningitis, the anti-influenza serum and influenza vaccine should be employed intraspinally, and perhaps subcutaneously.

For meningococcus meningitis, the common epidemic type, the early intraspinal injection of polyvalent antimeningococcus serum is curative in about 80 per cent of the cases. For the milder cases, two or three injections every twenty-four hours, followed by one or two injections after a forty-eight-hour interval, are usually sufficient to cause disappearance of the organisms in the spinal fluid. This is proved by one or two subsequent spinal taps and examination of the spinal fluid. In severe cases, repeated injections should be given every twelve or even every eight hours for the first day or two, meanwhile making careful study of each fluid withdrawn, particularly with reference to the number of cells, the sugar content, and the organisms outside and within the cells. If the general symptoms are very marked and there is a skin eruption, either petechiæ or especially purpura, it is wise to give 20 or 30 c.c. of the serum intravenously every twenty-four hours, having previously injected 1 c.c. of the serum subcutaneously to desensitize the patient.

Frequency of administration of the serum depends upon the condition of the spinal fluid and of the general leukocyte count. As the fluid clears and the cells become fewer in number, and especially as the microörganisms disappear, the frequency of the injections may be diminished. Return of Fehling's reduction is a favorable sign. Generally from four to seven injections are necessary, although occasionally one or two injections are sufficient. The meningococci disappear from the spinal fluid, as a rule, according to Blackfan,[8] after the fifth injection, but they often disappear after the first or second. The patient should not be discharged from professional care until organisms have disappeared from the spinal fluid. Even then, further spinal taps should be made to insure that there has been no recurrence. Neglect of this precaution has permitted relapses to be untreated longer than was wise, and has resulted fatally at times. One of the peculiar features about the symptoms in recovering cases is that often the neck remains stiff and the head retracted for a long time after the acute symptoms are over. This symptom in itself is not a reason for increasing the frequency of the dosage.

Intravenous Injection

As a result of his experience in army camps, Dr. W. W. Herrick advises intravenous serum for adults as follows: "The diagnosis having been established,.....the attempt is made to sterilize the blood stream by massive doses of antimeningococcus serum introduced intravenously.....The patient is desensitized by the injection of 1 c.c. of serum subcutaneously. One hour later 80 to 150 c.c. are given by the vein, the first 15 at the rate of 1 c.c. per minute; the remainder more rapidly. In severe cases this volume of serum is repeated every 8 to 12 hours; in the mild cases every 24 hours, until the symptoms are under control. The average number of injections is 4½, and the average amount of serum 400 c.c. The greatest number of injections was 12, the amount of serum being 1,050 c.c." If the meninges are affected, according to Herrick, lumbar puncture is done half an hour after the intravenous injection, and sufficient fluid is withdrawn to reduce the pressure to normal. Then, rarely more than 30 c.c. of antiserum is injected into the spine. Only three or four such spinal injections are needed when given in connection with the intravenous treatment. Since the permeability of the inflamed choroid plexus for antibody from the blood has been established, it is believed that drainage of the spine at this time results in the introduction of a considerable amount of antibody from the blood into the cerebrospinal spaces. Satisfying proof of this is the prompt disappearance of meningococci from the spinal fluid when these massive intravenous injections are given.

Netter advises against intravenous injections, preferring the intraspinous and subcutaneous routes. Blackfan has seen two children in whom intravenous injection hastened death, in his opinion. Desensitizing is most important, but it must be remembered that occasionally there is a violent reaction from the serum, in spite of the attempt to desensitize.

There are certain patients who either do not respond at all satisfactorily to the treatment, or who, after a period of decided improvement following the spinal injections, cease to respond further—the fever and other symptoms becoming worse, and the cells in the spinal fluid increasing in number. Moreover, in a small number of cases, after successful spinal tapping and injection for several days, it becomes impossible to withdraw more than a few c.c. of spinal fluid, and the serum will not pass easily, if at all, into the spinal canal. The patients who do not respond to successful taps and injections fall into three classes: (1) Those in whom the meningococcus infection is generalized to a high degree, so that improvement in the meninges is prevented by continual infection from the blood. Intravenous injections should be employed at frequent intervals in such cases. (2) Those in whom the strain of meningococcus may have become serum-fast or insusceptible to the influence of the antiserum being used. In these cases the use of an antimeningococcus serum made by another laboratory from different strains of organisms may prove beneficial. (3) Those in whom there may be adhesions or thick purulent exudate at the base of the brain which prevents the antiserum from diffusing into the ventricles and coming into contact with the organisms there—the most important and largest area for their growth. Intravenous injections should be used in such cases for adults, and if not followed by speedy improvement, intraventricular injection should be considered.

In infants from whom only dry taps are obtained, and therefore, little or no antiserum can be injected, all patients with open fontanels should have the advantage of ventricular puncture, withdrawal of the ventricular fluid, and injection of antimeningococcus serum into the ventricle. The technic is simple and the operation performed almost as easily as withdrawing ventricular fluid from an infant with hydrocephalus. After proper antiseptic precautions, the needle is inserted at the outer angle of the fontanel so as to avoid the longitudinal sinus. It

is pushed downward and forward in the direction of the outer canthus of the eye on the same side, as advised by Howell and Cohen. If the fluid is not obtained in this tract, the needle should be withdrawn and passed in again at a slightly different angle. The amount of serum injected should be 5 or 10 c.c. less than the amount withdrawn. At another sitting, the ventricle on the opposite side should be similarly treated.

Cisterna puncture and injection of serum by this route have been employed in many cases recently, but I have had no personal experience with this method.

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Reports from the State Department of Health *

HEALTH-CAR WORK IN PENNSYLVANIA

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For three successive summers, traveling health units have been sent out by the Department of Health for the purpose of giving physical examinations to infants and preschool children in the more rural portions of the State. Our chief interest centers in the five- and six-year-olds, in an effort to have the parents secure corrections before entrance into school. Children of all ages, from birth to six years, are invited however. Each year, also, we have been obliged to examine a few over school age.

The cars (motor trucks) used for this field work do not differ greatly from motorized units in some of our sister states. They carry the full equipment for physicians and dental hygienists, and can be used as examination rooms, if desired, though schoolhouses are usually the site chosen for operation.

Weeks of preparation are spent in organizing the communities to be visited, and every effort is made to establish a thorough understanding of the exact nature of the work. It is wholly educational and preventive, as no medical advice or treatment is given. It is in no sense dispensary work. Local committees bear the brunt of working up the clientele, which often means a house-to-house or farm-to-farm canvass, with careful planning for stirring up local interest through the schools before they close, through the newspapers, the pulpits, movie houses, and what not.

The tour is made from June 1st to August 31st, when the schoolhouses are not in use. The staff consists of doctors, nurses, and dental hygienists. We try to plan definitely to examine a specified number per day, rarely giving more than one day to any one town, but it will be readily seen that it is very difficult to make an exact calculation. Our record day stands at 168 children examined by three doctors.

Permanent results from all this are what we hope for, not merely a bit of transitory excitement. Follow-up work, therefore, of a definitely planned character, is carried on by the local volunteer committees, by State and other public-health nurses, and in part by our division field organizers, to induce parents to set about the correction of defects found.

We have visited 18 counties in the three summers, with a total population of approximately 630,000. The first year we examined 4,361 children in Bedford, Somerset, Potter, and Tioga Counties. In the summer of 1926 we examined 4,250 in Fulton, Venango, Center, and Bradford Counties. In the summer of 1927, with two cars operating, we examined 7,743 in Crawford, Mercer, Elk, Forest, Mifflin, Juniata, Wayne, Susquehanna, Union, Sullivan, and Snyder Counties. During the summer of 1927, 4,010 children were referred to their respective family doctors for corrections.

The list of defects ranges through the usual findings, nor do the percentages of incidence of faulty tonsils, adenoids, etc., in our experience vary greatly from the published results in other places where large groups of children are studied. There is one exception: of the total number of children referred (4,010), 546 were noted to have fullness of the thyroid gland, either visible or palable, or both, or with palpable isthmus. This would seem to indicate the need of more attention to this particular condition.

On our first summer's tour, it was found that the vast majority of children were unprotected against diphtheria. This year, there was a notable improvement, due doubtless to the vigorous antidiphtheria campaigns in all parts of the State in the past two years. Vaccination is still left until just before school entrance.

* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

Classification by Counties of Children Examined and of the Findings

Eastern Tour—1927

	Wayne	Susquehanna	Sullivan	Union	Snyder	Totals	Percentages
Population	27,435	34,763	9,520	15,850	17,426	104,994	.....
Number examined	588—100%	1,377—100%	581—100%	438—100%	456—100%	3,440	100.0
Under 1 year	90—15.3	181—13.13	75—12.9	53—12.1	78—17.1	477	13.9
1-2 years	96—16.3	216—15.68	93—16.0	63—14.4	63—13.8	531	15.4
2-6 years	351—59.7	781—56.7	351—60.4	268—61.2	259—56.8	2,010	58.4
Over 6 years	51— 8.69	199—14.45	62—10.67	54—12.8	56—12.8	422	12.2
Not classified	.....	.....	.....	.....	.....	.....	.....
Number referred for correction	351—59.7	874—63.4	339—58.35	271—61.8	277—60.74	2,112	60.0
Number referred for thyroid attention	20	16	8	16	20	80	2.3
Dental-hygiene findings:							
Cleanings	328	1,037	456	350	349	2,520	.....
Without cavities	99	318	152	122	117	808	.....
With cavities	299	719	300	228	232	1,708	.....
Number of cavities	1,626	6,966	3,032	1,975	2,473	16,072	.....
Average per child	7.1	9.7	10.1	8.7	10.6	9.4	.....

Western Tour—1927

	Crawford-Mercer	Forest	Elk	Mifflin	Juniata	Totals	Percentages
Population	60,667 99,588	7,477	34,981	32,755	14,464	249,932	.....
Number examined	599—100%	398—100%	1,790—100%	1,096—100%	420—100%	4,303	100.0
Under 1 year	86—14.35	51—12.8	265—14.8	143—13.1	79—18.8	624	14.5
1-2 years	92—15.35	53—13.3	251—14.0	128—12.4	72—17.14	596	13.8
2-6 years	360—60.1	202—50.8	941—52.6	515—47.0	207—49.28	2,225	51.8
Over 6 years	61—10.2	89—22.4	333—18.6	310—28.2	62—14.76	855	19.8
Not classified	.....	3	.....	.....	.....	3	.....
Number referred for correction	287	273	626	516	196	1,898	44.1
Number referred for thyroid attention	33	77	94	202	60	466	10.8
Dental-hygiene findings:							
Cleanings	352	261	1,081	805	242	2,741	.....
Without cavities	155	60	309	235	74	833	.....
With cavities	197	201	772	570	168	1,908	.....
Number of cavities	1,021	1,267	4,511	3,560	1,035	11,394	.....
Average per child	5.2	6.3	6.2	6.2	6.16	5.9	.....

Eastern and Western Tours Combined—1927

Children examined by physicians	7,743
Cleanings by dental hygienists	5,261—100%
Number of children without cavities	1,641—31%
Number of children with cavities	3,616—69%
Number of cavities found	27,466
Average cavities per child	7.8

The dramatic part of the work is done by the dental hygienists, who, with a complete portable equipment, clean teeth all day long, keeping up, along with the cleaning, a steady stream of advice to the children and their parents. Each mouth is charted and a copy of the form given to the mother—a tangible help to make her realize what she ought to do.

The counties vary noticeably in the amount of dental caries found, and this year the contrast between the eastern and western counties was marked. In the eastern group, among 2,741 children there were 11,394 cavities, or an average of 5.9 cavities per child. The Crawford-Mercer area had a higher percentage of good teeth than any of the other counties visited. Indeed, it heads the list of the eighteen counties for the three years, with an average of but 5.2 cavities per child in those who had cavities, and with 44 per cent of the total number of children seen by the dental hygienists in that district without cavities. In the eastern counties, Snyder showed the worst record, with an average of 10.6 cavities per child.

We classify the children roughly, as to their general condition as a whole, into four groups

—poor, fair, good, excellent. It has been surprising each year how large was the group classified as in good condition.

Few of the common defects bring children *quickly* into under-par condition, and this is perhaps the reason why there is so much apathy among parents in securing corrections. With such blindness as to the existence of defects, and with so much *laissez faire,* we still have a long way to travel before fathers and mothers grasp the idea that there is anything to do for a child not obviously ill, and yet we have felt abundantly rewarded by the response to the car work each summer, and we estimate by careful revisiting and checking up in the towns that they are securing about 50 per cent of corrections.

Bureau of Child Health.

THE STATUS OF DIPHTHERIA CONTROL

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Your Health Department is glad to announce continued success in its effort to control diphtheria. We are not unmindful of the full coöperation and individual effort of the profession, as a whole, in the success attained thus far.

When Commissioner of Health Martin inaugurated the first State-wide antidiphtheria campaign in the United States in 1920, he set as our goal, the elimination of diphtheria as an epidemic disease in Pennsylvania by 1930. The campaign was organized with three basic principles of control in mind—these to be accomplished by education of the public to an appreciation of what the medical profession could do in the way of cure and prevention: (1) Larger and earlier doses of antitoxin, as a curative agent, were advocated. (2) Strict observation of quarantine of both patients and contacts was enforced. (3) Lasting immunization by toxin-antitoxin was urged.

During the six years of campaigning, free toxin-antitoxin has been issued by the Department for the immunization of more than 600,000 children. During the same period, the procedure has been more or less universally established in private practice.

The following figures show the result of the efforts on the part of the Department of Health aided universally by the profession:

Year	*No. of Cases of Diphtheria*	*No. of Deaths from Diphtheria*	*Rate per 100,000 Population*
1921	20,784	1,997	22.5
1922	16,817	1,504	16.7
1923	16,133	1,417	15.7
1924	12,665	1,059	11.7
1925	10,179	978	10.5
1926	8,443	819	8.7

In 1926, there were nine counties in which there were no deaths from diphtheria and thirteen counties in which there were but from five to twenty deaths. Twenty-four cities and boroughs and three townships with a population of over 10,000 also had no deaths from diphtheria. It is interesting to note that these favorable figures were attained in the counties and boroughs where strenuous campaigns had been conducted from year to year.

Heretofore, the Department has inaugurated the local campaigns and issued toxin-antitoxin free of charge for children of all ages. Local physicians have given their services gratis, and the State has furnished the nursing service. The Department feels that the time has come when physicians should no longer be asked to donate their services. Therefore, local campaigns will not be inaugurated by the State Department, but every aid possible will be given to local communities when help is desired. The Department will continue to issue, free of charge, toxin-antitoxin for children of all ages and, when possible, to lend nursing service. The issuing of parental-consent slips will be discontinued, and the local community must assume this responsibility.

With the record of the past six years in mind, and the profession, as a whole, heartily in accord with the beneficial results of lasting immunity against diphtheria, it looks as though the goal set in 1920 will be reached by 1930.

Bureau of Child Health.

THE PROPHYLAXIS OF EXOPHTHALMIC GOITER*

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In 1900, the death rate from exophthalmic goiter, in the registration area in continental United States, with 40.5 per cent of the population coming within the registration area, was 127, or an estimated rate of 0.4 per 100,000. In 1925, with 89.4 per cent of the population coming in the registration area, the number of deaths was 3,476, or an estimated rate of 3.4 per 100,000—an increase of about nine times per 100,000. From these figures, furnished by Dr. W. H. Davis, chief statistician of the Bureau of Vital Statistics in Washington, D. C., it is apparent, at least, that the death rate in twenty-five years from exophthalmic goiter has markedly increased, and it seems fair to assume that the incidence of the disease has increased, or has taken

*Read at the General Meeting of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 5, 1927.

on a more fatal character. This leads to the consideration of a serious problem and one which will become more serious with our increasingly artificial, complicated, and high-pressure mode of life, unless some more satisfactory method of handling the disease is brought forward than the one which is in vogue at the present time. It is my feeling that this solution will be obtained from a study, not of the thyroid gland alone, but of the individual as a constitutional entity, taking into consideration not only his own life, but that of his progenitors.

This paper can only suggest certain aspects of the disease and its history, along with many of the complicated problems which are involved, in the hope that more physicians will become interested and try to go deeper into the biologic and endocrinologic background of these people. As this study goes on, some solution may be found to prevent the final breakdown, the clinical onset of the disease, which from then on marks that patient as an unstable and fragile member of society.

Many do not realize the truly enormous amount of literature which has been written on the physiology, biochemistry, experimental pathology, and clinical observation concerning the thyroid gland, to say nothing of endocrinology in general, and it is practically impossible to evaluate some of these contributions, or to find a clear connection between them and the problem of exophthalmic goiter. Therefore, leaving the more technical and controversial literature to be consulted by those who would narrow their field to some special aspect of the problem, I would, in general, refer to the accepted works on the subject, and have appended a rather generous bibliography.

Considering a few of the factors which point to the presence of a constitutional and possibly a familial background to this disease, it is fairly well accepted that growth and constitution are in some way intimately connected with the activity of the endocrine system, and that the glands of internal secretion are in turn interactive with the vegetative nervous system, a disturbance of which accounts for many of the prominent symptoms in exophthalmic goiter. Many clinicians, and particularly the older practitioners who have followed families as their physician, have recorded various endocrine disturbances with a familial distribution. Oestereicher reports a hysterical mother with ten children, eight of whom had exophthalmic goiter, and one descendant who had three children with the same disease. Rosenberg speaks of a grandmother, father, two aunts, and two sisters who were affected. One of my friends lately has had two brothers suffering from Graves's disease. I have had a mother and one daughter who have had the affection, and examples of several members of a family with simple goiter are numerous. Some families seem to have a generally poor endocrine furnishing. In one family which I have attended, the mother died of diabetes, the father is acromegalic, one daughter was operated upon for exophthalmic goiter, and another daughter is at present in an institution with the diagnosis of dementia precox. Twins suffering from thymic enlargement were recently treated in this city. Diabetes is a well-known familial disease, and, with closer observation, doubtless many families lacking well-balanced or efficient endocrine apparatus could be found.

The theory of a polyglandular mechanism in exophthalmic goiter is based on rather confusing evidence, but there is enough to convict other glands of participating in the picture and not enough to incriminate the thyroid alone. First, exophthalmic goiter has not been generally accepted as a disease which has been produced experimentally, either by stimulation of the thyroid alone, or by administration of any of the various forms of thyroid extractives, and the nearest approach to a reproduction of the disease has been based on experiments with the adrenals, while administration of epinephrin may bring on many of the symptoms of Graves's disease. Clinically, in the fully developed disease, there are signs not only of hyperthyroidism, such as tremor, tachycardia, psychomotor stimulation, a hyperactive sympathetic nervous system, increased basal metabolic rate, and increased body heat, but also signs of hypothyroidism, such as the goiter itself, skin changes and pigmentation, hair and nail changes, and a suggestive fat distribution.

Assumption that there is some involvement of the adrenals is based on the fact that stimulation of the sympathetic nervous system affects not only the thyroid, but also the cortex of the adrenals, possibly the pituitary, and increases all these secretions, and that when epinephrin is given in sufficient dosage, tremor, tachycardia, sweating, elevated blood pressure, and an increased metabolic rate are produced.

That there is some definite relation between the function of the thyroid and the pituitary seems evident, since sexual disturbances, obesity, lethargy, headache, similar skin changes, and a lowered basal metabolism may be found in either hypothyroidism or hypopituitarism, and since fever, polyuria, polydipsia, characteristic fat distribution, and vertex headaches such as are found in exophthalmic goiter may also be explained on the basis of a pituitary disturbance.

The thymus has also been under suspicion on account of the fact that, after thymectomy in animals, the thyroid tends to become hyperplastic, and because certain cases of exophthalmic goiter have been reported cured, some by extirpation of the thymus and others by deep x-ray treatment of the gland.

The pancreas may also be involved, as diabetes is associated with Graves's disease rather frequently, although Fitz maintains that this occurs in only a small number of cases, and then by chance.

Certainly, there is very good evidence that the disease has something to do with the sex glands. It is well known that exophthalmic goiter is primarily a disease of females, the accepted rates being from six or eight females to one male suffering from the disease, and a closer inspection of the males who have this disturbance proves that most of them usually show some evidence of femaleness, such as female skeleton, female distribution of fat or hair, fine skin, rather prominent breasts, or a temperament contrary to the accepted male standard. Also, in many of the cases, the acute onset occurs around the age of puberty, during pregnancy, or during the menopause. Certain writers, particularly the German school, describe an ovarian type of the disease, and report cures with deep x-ray treatment over the ovarian regions.

Considering briefly some of the factors which precipitate the onset of acute symptoms, aside from the physical status of the individual, in the large majority of cases one or more of the following conditions will be found shortly preceding the breakdown; psychic shock, sexual excesses, malnutrition, marked physical or nervous strain, pregnancy, or infection. The typical picture of exophthalmic goiter is frequently seen following the receipt of adverse news. In one of my patients, the onset followed a marked and prolonged sexual debauch. During the late war, cases developed after troops had been under severe marching strain, with insufficient food and exposure to shell fire. Obstetricians see the disease develop occasionally during pregnancy and at times quiet down after delivery. The evidence against infections is not quite so clear, although in one typical case, the patient stated that her nervousness and loss of weight followed a severe attack of quinsy. Focal infections probably play a small part in the production of symptoms, but general infections do not seem to be active in the final breakdown.

What is the meaning of all this in relation to the prophylaxis of exophthalmic goiter? With close study, many of the individuals who have a constitutional tendency toward the disease can be identified, and then it is incumbent upon the physician to train them to withstand or avoid the strains which bring on symptoms. A large part of this responsibility lies in the field of general practice, where the doctor has more opportunity to study the family, since he sees its members year after year. This problem entails a study of family histories and training in the field of endocrinology, so that the signs and symptoms of imbalance of the glands of internal secretion may be recognized, not necessarily after they break down, but while they are forming the individual, and so that patients may be classified as to preponderance or insufficiency of any of the various endocrines.

To be more specific, we all know patients or friends, females or those males who have something about them which suggests femaleness, who are active mentally and emotionally, perpetually in a hurry, working not smoothly, but in jerks, easily switched from one subject to another, with bright sparkling eyes, which under stress become brighter and may even suggest exophthalmos, who flush and sweat easily, feel the heat of summer excessively and go around in the winter without overcoats, and combined with all this have some of the stigmata of endocrine imbalance. Take such an individual from a so-called goitrous family, put him or her, as the case may be, under severe strain, and you stand a good chance of having a case of exophthalmic goiter to look after.

Just what relation the simple goiters of young people have on this problem is not known. Writers on the subject are contradictory, and the existing statistical studies are not large enough to permit of definite conclusions. When the question is settled, no doubt it will be found that true exophthalmic goiter is independent of simple goiter, which will have to be considered only in the development of toxic adenoma. However, simple goiters should be cared for and, when possible, prevented by the methods suggested by Marine.

Focal infections, when definitely demonstrated and safely amenable to treatment, should be cleared away, even though they may not be a primary factor in the production of this disease.

Proper training in childhood, and particularly of the so-called nervous children, will do a great deal towards making life a more acceptable matter when they grow up, to say nothing of lessening the strain on nervous and endocrine structures. Calm and reasonable living will go a long way towards preventing the onset of Graves's disease.

The subject reduces to this: to increase our knowledge in regard to the influence of the en-

docrines on growth and constitution, particularly for the early years of life; to gain enough knowledge of both the individual and the family reasonably to conclude that the patient has some signs or symptoms and some possible familial traits which might be forerunners of exophthalmic goiter; then, if possible, either to train the nervous system to withstand better our present-day methods of living, so that the endocrines are not overstimulated or called on for an excessive amount of work, or to remove from the patient, or the patient from, those physical factors and adverse habits which are known, at times, to bring on the clinical onset of the disease.

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ABSTRACT OF DISCUSSION

Frank A. Evans, M.D. (Pittsburgh, Pa.): Stimulation of interest in the prophylaxis of exophthalmic goiter seems to be distinctly in order, for two reasons: first, we do not ordinarily think of it as being within the province of the family physician; and second, the need for it is great, as shown by the increased death rate from goitrous disease.

Much attention has been given recently to psychogenic factors in disease, and more is in order before these cases can be adequately handled. These factors, for which there is a biologic foundation, will produce indigestion in one type of patient, and in another hypertension or an enlarged heart; but in the young, they will produce neurotic manifestations in various forms from simple extrasystoles to the toxic heart of exophthalmic goiter. Psychic injuries repeated month after month in susceptible young people, during a physiologically impressionable age, must have a serious influence on endocrine balance and imbalance, and, of course, exophthalmic goiter in most instances is a polyglandular disease. The prophylaxis for exophthalmic goiter suggested by Dr. Sheppard will at the same time benefit a number of other conditions.

Case Reports*

OSTEOGENESIS IMPERFECTA

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Mrs. A. A. was admitted to the hospital on June 20, 1924, and delivered easily and quickly of a male child in the breech position. The family history was unimportant and did not reveal unusual bone lesions. The placental blood gave a negative reaction, and the parents denied luetic infection. The baby weighed five pounds and fifteen ounces. Examination after birth showed fracture of all the long bones, many ribs, both clavicles, and all the bones of the vault of the skull, so that when the child was in a recumbent position his skull flattened on contact with the pillow. Postmortem x-ray pictures of the entire body showed the fractures.

M. W., a female aged five years, was admitted February 11, 1927, for a fracture of the right femur in the middle third. At birth she had weighed seven and three quarter pounds. She had been bottle-fed on Eagle Brand condensed milk, and had become a plump, healthy-looking child. She was two years old before she began walking, but began to talk earlier than the other children of the family. At the age of a year and a half she had moderately enlarged cervical glands on both sides. Measles had developed when she was three years old, but she had had no other illnesses. At the age of ten days, her mother, while bathing her, discovered that the left humerus was fractured, and to date she had had fifteen fractures—four of the femurs, ten of the tibia, and one of the humerus.

The mother was 27 years old. She had had seven normal confinements. The first baby died three months after delivery, cause unknown, but it had appeared to be healthy. The mother had had no serious illnesses except a severe attack of influenza just prior to this pregnancy. She denied venereal infection, but repeated blood examinations showed a four-plus Wassermann reaction. She had no bone lesions. The mother's parents were living and well, and their six children also, but there was a history of thyroid disorder in three of them, and her father had asthma for many years.

The child's father was forty-one years of age. He had had no serious illness except severe influenza in 1921 at the same time his wife was sick. There had been one accidental fracture, and a neisserian infection twenty years ago. He denied lues, but repeated blood examinations showed a four-plus Wassermann. His parents were living and well, with no bone lesions present; also their fourteen children.

Physical examination of the patient showed a poorly nourished, frail-looking child, with hair dry and thin, sclera of a markedly blue-gray color, tongue clean, and

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cervical glands slightly enlarged. Her head had a square appearance, her chest was well developed and full, and her lungs, heart, and abdomen negative. The lower extremities were negative with the exception of a saberlike deformity of the tibia, the result of old fractures.

The laboratory reports were as follows: Urine negative. Red blood cells, 4,544,000, white cells 6,800, hemoglobin 90 per cent, color index 1, small lymphocytes 27 per cent, polymorphonuclears 41 per cent, transitionals 4 per cent, and eosinophils 1 per cent. The red cells were normal in shape and size. Two Wassermann tests were four plus. The blood calcium was 9.8 mg. per 100 c.c.

Osteogenesis imperfecta is the name given to a disease characterized by a congenital defect in the evolution of the osteoblast, and recognized clinically by defective ossification and a multiplicity of fractures resulting from trivial causes. Reports of cases now recognized as instances of this affection are scattered throughout the literature under designations such as fetal rickets, idiopathic fragilitas ossium, and osteopsathyrosis. At first it was thought to be incompatible with life and that its victims were stillborn or died within a few minutes after birth. Then it became evident that a certain percentage of infants survived for varying lengths of time, while others who showed signs of congenital affection gradually attained to a fairly normal childhood with a lessening liability to fractures.

The absence of osteoblasts and the formation of cartilage cells instead of osteoblasts from the periosteum are the two most suggestive histologic features in osteogenesis imperfecta. A connection has been shown to exist between this condition and the gray-blue color of the sclera. If the pathogenesis is thus to be linked up, it is necessary to go back to the connective-tissue cells which precede it. Fibrous tissue, cartilage cells, and osteoblasts are specialized forms of connective tissue, and each type of cell is especially adapted for the work which it is to do. It is not known what determines the development of fibrous tissue, of the cartilage cell, or of the osteoblast from connective tissue under normal circumstances, but environment is of considerable importance. In the disease under consideration, something goes wrong in the evolution of the osteoblast, and the cartilage cell—of poor vitality and functionally less well adapted for good bone building—is produced in its stead. We may conceive of the affection as having its origin either in a quality implanted in the connective-tissue cell itself at an earlier period of its development and destined to influence its future evolution unfavorably, or in some influence acting upon the cell from the outside and not, of necessity, directly. The origin of the cell defect in the second case no doubt was environment and syphilis.

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PURPURA HEMORRHAGICA IN A TWO-MONTHS'-OLD INFANT

Preliminary Report

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James M. was born March 10, 1927. He was the first child of his parents, normally delivered at full term, and weighed seven pounds. He was well at birth, and showed no signs of asphyxia, cyanosis, convulsions, nor abnormal bleeding. He nursed well. His color was good, and he was never jaundiced.

His parents were both living and well. The father was Italian, the mother Irish, both of American birth. The mother had had only one pregnancy. Her Wassermann was negative on May 25, 1927. There was no history of abnormal bleeding or of any disease in either family, nor of exposure to tuberculosis.

The baby had been breast-fed. He had not been given cod-liver oil, but had had a half-ounce of orange juice on two or three occasions. He had always been well, with the exception of a cold which had been present to some extent since the age of five weeks, together with a slight dry cough. There had not been any nasal discharge. There was no history of vomiting nor of any gastro-intestinal upset. The child had always been active, and had slept well.

His present condition had started about May 10th, when he began to have little bluish-red spots in the skin, especially over the lower abdomen and in the genital region. This persisted for about five days, when fever appeared on the night of May 15th and continued all the next day, and after that chiefly at night, until admission to the hospital on May 20th. One week before admission, the baby vomited practically all of one feeding, and once or twice after that he vomited. He eructed considerably more air than usual, and had abdominal pain before eructation. On one diaper the mother had noticed two dry red spots of blood, and later several diapers were pink, being definite evidence that the color was due to the urine this time, not to a stool. There had been no diarrhea, and practically no cough, but some bleeding through the nose had occurred.

The petechial spots, which started about May 10th, increased in number for a few days, then disappeared, so that the skin was said to be clear four days before admission. Since that time they had reappeared in essentially the same distribution as originally, chiefly over the lower abdomen and in the genital region, over the body, the extremities, the head, and in the sclera of the eyes. Submucous hemorrhages into the mouth were also noted. For the past week the baby had been rather stuporous, but was readily aroused for nursing. He nursed fairly well until four days before admission.

Physical examination on admission showed a well-developed and well-nourished male child, two months and ten days of age, who was acutely ill, but quiet.

The findings were normal except for the following: The skin was spotted with fine petechiæ all over the body, face, and extremities, but mostly on the lower abdomen, and petechiæ appeared on the sclera. The mucous membranes of the nose were hyperemic. Both ear canals were clear, but the drums were dull, full, and hyperemic. The chest was well formed, but there was a very marked dullness to percussion over the left lung, especially posteriorly. There were no râles in this area, but slightly high-pitched breath sounds were heard. The voice sounds were increased. The right lung was negative. The abdomen was normal in size and shape, but slightly distended. The spleen was palpable about one centimeter below the left costal border and in the anterior axillary line. It was movable, and apparently not tender. The Wassermann test was negative on June 21st.

Case of purpura hemorrhagica.

The diagnosis was lobar pneumonia of the left lung; otitis media, bilateral, purulent, and acute; and purpura, cause unknown.

Nothing definite is known as to the direct exciting cause of purpura hemorrhagica (thrombopenic). No characteristic lesions are found at autopsy. The symptoms are: (1) Hemorrhages into the skin and mucous membranes—petechiæ, ecchymoses, or hemorrhages from the nose, urinary tract, intestines, mouth, throat, stomach, genitals, ears, or lungs. (2) General symptoms such as fever, weakness, and digestive disturbances. The spleen is usually enlarged. (3) Blood changes—secondary anemia, reduction of the blood platelets, increased bleeding time but normal coagulation time, nonretractile clot, and a positive capillary resistance test (the tourniquet test of Hess). There are acute and chronic forms of the disease. The chronic form is subject to remissions, recurrences, and to spontaneous recovery. The prognosis depends upon the form present, upon the amount of hemorrhage, duration of the attack, and in some instances upon the location of the hemorrhage—as, for instance, intracranial hemorrhage.

The treatment is difficult to evaluate in a disease marked by a tendency to remissions, relapses, and even spontaneous recovery. The generally accepted modes of treatment are: transfusions of whole or citrated blood; production of "protein shock"; quartz-lamp radiation; x-rays in stimulating doses, as suggested by Stephan, or deep "destructive" raying of the spleen, as employed by Pancoast; and splenectomy.

In our case, transfusions, the quartz lamp, and the x-ray treatments of Pancoast were used, with the following results: During the period from May 21st to June 24th, three transfusions of citrated blood were given, and five whole-blood transfusions. The platelets averaged 71,250, and the bleeding time 26½ minutes.

Forty-four treatments were given by the quartz lamp between June 30th and July 28th, during which the platelets averaged 59,333, and the bleeding time 24½ minutes. Seven x-ray treatments of the splenic area were given from August 3d to August 17th, and the platelets averaged 96,800, and the bleeding time 19 minutes. Later the platelets rose to more than 150,000, and the bleeding time became normal.

Urinalyses were negative for occult blood, but a few leukocytes were found on May 21, 23, 26, and 31. Stool examinations were positive for occult blood on May 21, June 1, 3 (a trace), and 16; negative June 21; positive June 30; and negative July 15.

During the treatment, from May 21st to October 3d, the hemoglobin increased from 38 per cent to 78 per cent; the white blood cells decreased from 35,400 to 11,000; the red blood cells increased from 2,528,000 to 4,052,000. The bleeding time, which rose as high as 80 minutes during the course of the illness, was reduced to 4 minutes; the coagulation time, which had required as much as 9 minutes, was 4 minutes on October 3d; and the blood platelets varied between a low mark of 28,000 and a high mark of 170,000, being 164,000 on October 3d. The capillary resistance test was repeatedly positive.

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LYMPHOCYTIC LEUKEMIA OCCURRING IN TWINS*

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There are many cases of blood dyscrasias in children which do not conform to the clinical and laboratory pictures outlined in the textbooks. This is particularly true of primary and idiopathic anemias. The secondary anemias, which have a definite primary cause, are not included in the above statement. It is only those whose underlying causes are not demonstrable but which present some of the features of several types to which this applies. Two cases definitely illustrating this are the subject of this report. They are interesting in that they are difficult to classify, and for want of better terminology, they have been called lymphocytic leukemia. The term *leukemia* is justified upon the basis of the persistent and high leukocyte counts; and the term *lymphocytic* by a preponderance of the lymphocytes in the differential counts. It was interesting to observe the similarity in the blood pictures of twins of the opposite sex. The presence of the condition in both children indicated some hereditary influence. Questioning of the family elicited the evidence that the maternal grandmother, the mother, and the mother's sister were all anemic.

Frank and Gloria, twins aged 2½ years, were first seen in the children's clinic June 1, 1926. Their mother complained that they had both been anemic since birth, and had not improved in general health as they should. Blood examinations were immediately made, and the following reports were obtained:

Frank. Hemoglobin 41 per cent, red blood cells 2,950,000, white blood cells 14,150. Differential count: polymorphonuclears 38 per cent, small lymphocytes 50 per cent, large lymphocytes 8 per cent, mononuclears 2 per cent, eosinophils 4 per cent. The coagulation time was two minutes.

Gloria. Hemoglobin 32 per cent, red blood cells 2,640,000, white blood cells 11,150. Differential: polymorphonuclears 56 per cent, small lymphocytes 37 per cent, large lymphocytes 2 per cent, transitionals 1 per cent, eosinophils 4 per cent. The coagulation time was two and a half minutes.

A recommendation was made at this time that the children be brought to the hospital for study, but this advice was not followed until three months later, when they were admitted to the children's ward.

The history of the case showed that the twins were carried to the full term and each weighed 5½ lbs. at birth. They were breast-fed for seven months. At twelve months of age they were able to walk. They gained in weight very slowly. There had been no serious illness, and the only complaint was the presence of anemia from an early date.

Both parents were living, but the mother was not well, though the exact nature of her complaint could not be ascertained. The mother, the maternal grandmother, and one maternal aunt were anemic. There was no history of diabetes, tuberculosis, nephritis, malignancy, nor other serious hereditary disease in the family. The blood examinations of these three antecedents were as follows:

Grandmother. Hemoglobin 44 per cent, red blood cells 3,360,000, white blood cells 6,500. The cells were very pale, there were some poikilocytes, a few polymorphonuclears, and the staining reaction was very light.

Mother. Hemoglobin 76 per cent, red blood cells 4,050,000, white blood cells 7,300. Differential: polymorphonuclears 64 per cent, small lymphocytes 28 per cent, large lymphocytes 6 per cent, mononuclears 0, transitionals 2 per cent, eosinophils 0.

Aunt. Hemoglobin 38 per cent, red blood cells 2,800,000, white blood cells, 7,100. Differential: Polymorphonuclears 56 per cent, small lymphocytes 28 per cent, large lymphocytes 8 per cent, mononuclears 4 per cent, transitionals 2 per cent, eosinophils 0. Poikilocytosis was marked. There were no nucleated red cells, but the cells were pale and stained only at the margin.

The physical examination of the children showed that both were extremely weak, markedly pale, and unable to walk. The little girl had a distinct canary-yellow pigmentation. Neither child was wasted, but each was round and plump, especially the girl. Their tissues were soft and boggy. Both children showed the stigmata of rickets, such as prominent frontal bosses, rachitic rosary, and outflared costal borders. The fontanelles were closed at the time of the examination. Their eyes were apparently negative, and their mouths normal except for evidences of dental caries. Their chest expansion was good and the lungs resonant, while the breath sounds were vesicular, and puerile in type. The heart action in both children was rapid, but no murmurs were heard. Their abdomens were somewhat protruding, but in neither was the liver or spleen palpable. During their stay in the hospital, urinalyses

*From the Children's Service, Methodist Episcopal Hospital, Philadelphia, Pa.

were made at intervals, and from time to time showed sugar or albumin, but as this cleared up, it was thought that there was no permanent renal change.

On admission, Frank showed a bleeding time of 1½ minutes, and a coagulation time of 3½ minutes. The van den Bergh test was negative, as was the Wassermann test. His blood count was as follows: Hemoglobin 43 per cent, red blood cells 4,050,000, white blood cells 21,200. Differential: polymorphonuclears 34 per cent, small lymphocytes 56 per cent, large lymphocytes 7 per cent, mononuclears 0, transitionals 0, eosinophils 0. There was marked polychromatophilia and some anisocytosis.

Gloria showed a bleeding time of 2½ minutes and a coagulation time of 3½ minutes. Her van den Bergh and Wassermann tests were negative. Her blood count was as follows: Hemoglobin reading unsatisfactory, red blood cells 2,750,000, white blood cells 18,000. Differential: polymorphonuclears 50 per cent, small lymphocytes 45 per cent, large lymphocytes 0, mononuclears 1 per cent, transitionals 3 per cent, eosinophils 0. There was marked poikilocytosis and anisocytosis.

On September 16th both children were reported as type iv. Frank's blood count showed hemoglobin 22 per cent, red blood cells 3,000,000, white blood cells 15,500. Differential: polymorphonuclears 32 per cent, small lymphocytes 57 per cent, large lymphocytes 8 per cent, mononuclears 1 per cent, transitionals 0, eosinophils 2 per cent. Gloria was reported as having hemoglobin 22 per cent, red blood cells 2,300,000, white blood cells 13,000. Differential: polymorphonuclears 46 per cent, small lymphocytes 45 per cent, large lymphocytes 6 per cent, mononuclears 1 per cent, transitionals 1 per cent, eosinophils 1 per cent. There was marked poikilocytosis and anisocytosis. The red cells seemed to be without color. Megakaryocytes were observed, one per one hundred white blood cells. There was marked polychromatophilia.

On September 21st both children were given intraperitoneal transfusions of 200 c.c. each. On September 24th Frank showed hemoglobin 45 per cent, red blood cells 5,050,000, white blood cells 12,900; Gloria showed hemoglobin 23 per cent, red blood cells 2,750,000, white blood cells 10,000. On September 27th Frank showed hemoglobin 45 per cent, red blood cells 5,350,000, white blood cells 10,000; Gloria showed hemoglobin 40 per cent, red blood cells 4,150,000, white blood cells 9,500. On October 4th Frank showed hemoglobin 58 per cent, red blood cells, 5,140,000, white blood cells 22,000; Gloria showed hemoglobin 55 per cent, red blood cells 3,780,000, white blood cells 27,700.

From this time on, occasional counts were taken, but the picture remained practically the same. Under careful dietetic management, by the internal administration of cod-liver oil, and exposure of the children to the mercury-vapor quartz light, their general condition so improved that they were able to walk again and became quite active. They were discharged from the hospital November 9, 1926, and reported to the outpatient clinic for observation on December 14th. At this time the blood counts were as follows:

Frank. Hemoglobin 58 per cent, red blood cells 3,635,000, white blood cells 12,100. Differential count: polymorphonuclears 40 per cent, small lymphocytes 48 per cent, large lymphocytes 5 per cent, mononuclears 2 per cent, transitionals 1 per cent, eosinophils 4 per cent.

Gloria. Hemoglobin 50 per cent, red blood cells 4,330,000, white blood cells 15,250. Differential: polymorphonuclears 25 per cent, small lymphocytes 61 per cent, large lymphocytes 5 per cent, mononuclears 4 per cent, transitionals 3 per cent, eosinophils 2 per cent.

The children have not been seen in the clinic since this time, but verbal reports on their general condition are very satisfactory, both children being active and apparently healthy.

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INTESTINAL OBSTRUCTION DUE TO A DUODENAL BAND

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The case here reported is unusual in that, when first seen by the writer, the patient had twenty to thirty stools daily which were typical of intestinal intoxication of the fermentative type and that, following operation, a condition developed which was exactly similar to sepsis of the newborn.

Congenital obstruction of the duodenum occurs as a developmental malformation, usually with a complete atresia or absence of one portion, and rarely as a stenosis. Atresia gives early evidence of its existence, while stenosis is less active in its manifestations. Davis and Poynter[1] estimate the duodenum to be the seat of thirty per cent of all cases of congenital obstruction from the pylorus to the anus. Neff and Haden[2] call attention to the marked reduction in blood chlorids, a high CO_2 combining power and alkalosis of the blood early, with an increase in the nonprotein nitrogen later, and suggest the use of sodium-chlorid solution to reduce the risk of operation.

D. C., aged five weeks, male, seen January 24, 1927, was a first child, delivered by high forceps at full term, and cried immediately after birth. He never nursed from the breast because, the mother said, her supply was scanty. He regurgitated his first feeding of half whole milk with water and cane sugar, but afterwards took the formula well, with no vomiting. At the age of two weeks he had a sudden attack of projectile vomiting immediately after taking his bottle. The family physician discontinued the sugar and advised four-hour intervals between feedings. The baby gained in weight and had no further vomiting until he was four weeks old, when projectile vomiting again occurred, consisting of undigested milk and mucus. Since then the vomiting had persisted, taking place five minutes to a half-hour after feeding. The abdomen was distended, and the stools averaged twelve to fifteen daily. They were green, foul, contained much mucus but no blood, and had an offensive odor. The infant was given atropin and various formulæ were tried, but he did not improve and developed extreme atrophy and intoxication.

On physical examination, the patient was found to be extremely atrophic, with wrinkled skin and marked loss of turgor. He had the deep, rapid respiration of intoxication, and was lying with half-closed eyes. The fontanelle was depressed, but the Brudzinski or Kernig

signs were not elicited. There was general hypertonicity, positive Chvostek, and peroneal reflexes. The pupillary reactions were normal. The mouth was reddened and dry. The heart sounds were of poor quality, and there was some cardiac enlargement. The lungs were normal. The abdomen was distended, markedly tympanitic, and visible peristalsis was present, but no tumor could be felt. There were no areas of spasm, rigidity, or tenderness, and no fluid wave was present. The spleen was not palpable, but the liver was slightly enlarged.

The provisional diagnosis was hypertrophic pyloric stenosis and intestinal intoxication. X-ray examination showed that at the end of three hours no bismuth had left the stomach, which appeared to have an hour-glass shape. The x-ray diagnosis was pyloric obstruction. The urine contained much albumin, many leukocytes, numerous granular casts, and a few hyaline casts. The blood count showed hemoglobin 80 per cent, red blood cells 3,500,000, white blood cells 20,750, polynuclears 76 per cent, lymphocytes 11 per cent, large mononuclears 7 per cent, and transitionals 6 per cent. The stools were large, green, loose, acid, and contained much mucus, blood, pus, and quite a large amount of bismuth which had been given previously to check the vomiting. No examination was made of the blood chemistry as this was not deemed necessary.

At operation, no pyloric stenosis was found, but a band was discovered which ran between the first portion of the duodenum and the hilus of the liver, which brought up the duodenum to a very acute angle. The band was cut and the wound closed.

Previous to operation, five-per-cent glucose solution was given intravenously and by hypodermoclysis. Following the operation the infant's condition became critical, hypertonicity more pronounced, and a generalized sclerema developed which was most marked in the thighs and calves. An intravenous blood transfusion was given, and hypodermoclysis of 5-per-cent glucose was administered daily for some time.

On February 3d, elevation of temperature developed, due to bilateral suppurative otitis media. Paracentesis was done, and a culture from the ear discharge showed Staphylococcus albus. A subcutaneous abscess then appeared at the end of the spinal column, and the abdominal incision showed evidence of suppuration. On February 5th, jaundice and enlargement of the liver were noted, with cyanosis later—a combination typical of sepsis of the newborn. Then successively the right radius, right ankle, right sternoclavicular joint, right hip joint, and right groin became red, swollen, and fluctuating, and were incised, the pus also showing Staphylococcus albus, except that from the groin, which showed B. coli. Edema of both legs and the abdominal wall followed, and an area of dullness was noted in the right hilus of the lung. On February 28th the right mastoid was opened under local anesthesia, and pus appeared. A sequestrum was removed, and osteomyelitis was found underneath. On March 12th there was a sudden elevation of temperature, due to pneumonia of the left upper lobe, and the child became toxic. On March 17th, the x-ray showed pneumonia of the left upper lobe, destruction of the right acetabular cavity, and involvement of the other joints named. Air hunger and edema of the lungs appeared on the 20th. There was some improvement following hypodermic injections of large doses of atropin, but pulmonary edema recurred on March 21st, and the infant expired on March 22, 1927. During the course of his illness the temperature varied from 100° F. to 102°F., with an antemortem rise to 105° F.

The treatment included several blood transfusions, numerous injections of glucose solution, stimulation by digitalis, whiskey, and the administration of caffein sodium benzoate and atropin. On account of the nephritis, mercurochrome was not given. Breast milk supplemented by protein milk and later whole lactic-acid milk with karo corn syrup were fed and were well taken, except towards the last three days of life. Orange juice was given regularly. For the tetany, calcium chlorid, cod-liver oil, and quartz-light treatment were given.

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ABSTRACT OF DISCUSSION

J. L. FOSTER, M.D. (Pittsburgh, Pa.): I had the privilege of seeing Dr. Feldstein's patient, and I cannot imagine a case which gives a better example of teamwork. It was remarkable that the child was kept alive so long.

THEODORE O. ELTERICH, M.D. (Pittsburgh, Pa.): The number of cases of congenital malformation of the upper intestinal tract is probably greater than would appear from published reports. During the past two or three years, I have seen at least two such cases, and have known of several others. In suspected cases of pyloric stenosis, fluoroscopy is of real value; because, if it can be demonstrated that the pylorus opens and closes normally and that the obstruction is farther down (usually at the duodenojejunal junction), valuable time can be saved by looking for the trouble first at that point. In both the cases which I saw the diagnosis was made preoperatively and confirmed on exploration.

HERPES ZOSTER OPHTHALMICUS IN AN INFANT OF FIFTEEN MONTHS

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WASHINGTON, PA.

Herpes zoster ophthalmicus is an exceedingly rare condition in infancy. A somewhat extensive but not complete examination of the literature confirms this statement. No records of cases have been found in American literature. Millon states that "Comby, the great authority on zona in children, has no case of zona ophthalmia occurring under 10 years of age. The same applies to most other authorities cited."

The patient, a female infant, G. H., aged 15 months, was brought to the office on August 27, 1926, because of a left cervical adenitis. There was a decided swelling, approximately two inches in diameter, beneath the tip of the left mastoid, hot to the touch, painful, and apparently causing considerable discomfort. The temperature was 99.4.

On September 5th, the gland had suppurated. It was incised and drained. At this time there was a rash over the head and neck, erythematous in character, which had been present for about forty-eight hours. The child was not vomiting, but her sleep had been

restless, and she was somewhat irritable. Erysipelas was suspected. The following morning, however, there were many vesicles over the right forehead upon an inflammatory, edematous base. They were slightly painful, and the eyelid was somewhat swollen.

On the 7th, there was much more edema of the lid and many vesicles. There was a sharp line of demarcation at the median line, the scalp was involved to the crown, and the vesicles extended down over the right temple, right supra-orbital ridge, and right side of nose. The infant was restless but not in distress. A provisional diagnosis of herpes zoster ophthalmicus was made, and an ophthalmologist who saw her in consultation confirmed the diagnosis. It was difficult to examine the eye at that time, but no evidence of corneal involvement was noted. Epiphora and apparently some photophobia were present. The following day the vesicles appeared larger, and some had ruptured spontaneously. The child, while restless, did not seem to be having severe pain. The temperature was 100-3/5, pulse 132, respirations 40.

On the 9th, she was better, though there was still a decided amount of swelling about the eye and extending down to the zygoma. She was not sleeping well, and was quite irritable. The day following there was some improvement, and the swelling seemed to be subsiding. Some of the vesicles were crusted over. Two days later there was much less swelling, and it was possible to examine the eye. No evidence of corneal involvement was present, but there was a slight internal strabismus. This, however, is a family peculiarity. On the 14th, the condition seemed to be clearing up rapidly, and the patient was able to open her eye. No impairment of vision was noted. On the 16th, the swelling was practically gone, and the vesicles had crusted over. She appeared to be doing very well.

The treatment consisted of sedatives and powdered zinc oxid locally.

The past history was negative so far as this illness was concerned. She was the first child, full term, and delivered spontaneously.

Gallemaerts reports a case in a girl of five years without prodromal symptoms, the eruption appearing suddenly. The vesicles were more numerous on the scalp, no eruption appeared on the nose, but there was a deep central ulceration on the cornea, and the conjunctiva discharged abundantly. The zona occupied the region of the trigeminus, but spared the nasal branch.

In seventy collected cases of herpes zoster in children, Millon found that the localization with regard to frequency occurred in this order: chest, abdomen, extremities, face, neck. The disease begins with a general malaise, loss of appetite, and a slight fever lasting for two or three days. Slight gastric symptoms have been noted in some cases.

Case of herpes zoster ophthalmicus in an infant fifteen months old.

The course of herpes in children is usually as follows: two to three days of prodromal symptoms, two days for eruption of vesicles, three to five days for drying up of vesicles. If the vesicles rupture they take longer to heal. The disease is usually unilateral. The violent pains associated with the disease in the adult are not present in the infant. Facial herpes zoster may affect any of the main branches of the trigeminal nerve, or two of these branches, but never three at one time (Rachmaninow; Bohn). If the first branch is affected, the vesicles appear over the corresponding area of the forehead to the crown of the head, over the eyelids, over the half of the nose, and to the canthus. As the long and short ciliary nerves may be sympathetically involved, the eyes may suffer. Inflammation of the conjunctiva and opacity and ulcer of the cornea may develop. The eyelids become swollen, and photophobia and epiphora are noted. Herpes zoster ophthalmicus leaves lasting scars more frequently than other localizations.

In his seventy cases of herpes zoster in children, Millon found only four cases of the ophthalmic variety. Rachmaninow reports a case in a girl of 4½ years; Jacqueau, a case in a girl of 10 years; and Hybord calls attention to three cases reported by Hutchinson in children aged 5, 4, and 3½ years, and also to one case reported by Panas in a boy of 3 years.

Washington Trust Building.

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ERYTHEMA INFECTIOSUM

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MCKEESPORT, PA.

Harold M., born November 8, 1925, was seen in consultation on February 24, 1927.

The infant had been breast-fed for ten months, and after that was on a very satisfactory diet. He had had no previous illness. Five days before the consultation, he became very cross and irritable, with occasional fever and restlessness, and did not sleep or eat well. Both ankles were swollen and reddened. There was no vomiting, but the child was constipated.

Physical examination showed a cross, restless, irritable infant, with a temperature of 101° and pulse rate of 130. He was very slightly toxic, and the tongue was coated, except for the tip and edges, which were very red. This redness appeared and disappeared during the examination. The throat was slightly inflamed, but there was no trouble in deglutition. The heart, chest, and abdomen were negative. The mother stated that the rash first appeared on the outer surface of the left arm, then on the face, and that it looked to her like hives. After a mustard bath, the rash turned dark red in color, and appeared on the buttocks, and on the outer and anterior and surface of the legs. The maculopapular rash was sharply defined, dark rose-red in color, slightly elevated, and some of the papules were as large as a twenty-five-cent piece. There were more on the face and the buttocks than on the arms and legs, and on the buttocks the rash was confluent. The most striking thing about it was its rapid appearance and disappearance. This occurred three times during the course of the disease, when the rash could be seen to fade.

The patient was put on a liquid diet, with a soda bath daily. Salicylates and alkalies were administered. There were no complications, and recovery was uninterrupted.

The only literature on this condition which could be found was *Abt's Pediatrics*, volume 5, page 660. Dr. Henry L. K. Shaw, who wrote the article says: "The description of erythema infectiosum has appeared chiefly in German literature. As yet this disease as such has scarcely been recognized in America."

Dr. Braner, of Hamburg, N. Y., gives an account of an epidemic of thirty-seven cases which occurred in that town in the spring of 1919. This is the only report of an epidemic in this country. Twenty-four females and thirteen males were affected. He gives the following description: "Without prodromes eruption appears first on the face. Patient presents appearance of being overheated, but the color is a dusky red, especially on the cheeks, color showing a well-marked line of demarcation; skin hot to the touch, patient complains of a burning sensation. Following day, eruption on extensor surfaces of arms and shoulders, moving down to forearms. This eruption is maculopapular, resembling measles [not so in this case]. Two or three days the eruption is seen on the trunk, slightly on the chest. The chest is sometimes free from any eruption [chest and abdomen clear in this case]. Eruption marked on buttocks [very much so in this case—here it was confluent]. Next, eruption appears on anterior surface of legs. As the eruption fades it leaves a maplike network which I have seen as late as three weeks after initial rash. There is a peculiar marblelike mottling of the skin quite evident at times after rash has faded. There is one constant and characteristic feature of this eruption, and that is its evanescence. It may appear to a marked degree in certain locations while one is making the examination. It also disappears very suddenly, only to reappear in a few hours or days." My case fits in exactly with this part of the description.

Peoples Bank Building.

WASH AWAY POISON IVY

Nothing can so completely ruin a summer vacation or a day's outing as the handling of that unkind though lovely vine—poison ivy. The aftermath of intolerable itching is painful and prolonged, and scratching the afflicted spot, which is the natural gesture, may lead to a serious condition. If immediate treatment is given, the itching may be prevented. Numerous remedies have been recommended, among them bathing the afflicted portion of the body in a solution of permanganate of potash or swabbing it with solutions of cooking soda or of Epsom salts.

Dr. Charles James White, in his Harvard Health Talks, suggests immediate bathing of the skin in alcohol and washing it with soap and water before the poison has had time to penetrate into the tender layers of the skin. A lather of ordinary alkaline kitchen soap should be applied and washed off several times in hot water. Running water is preferable for this purpose, but if a basin is used the water should be changed frequently.—*The Cleanliness Journal.*

THE ATLANTIC MEDICAL JOURNAL

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Editorials

THE MENTAL-HOSPITAL PERSONNEL

The three fundamental requisites in the State care of the mentally ill are: (1) adequate and duly equipped and maintained hospitals; (2) proper classification and assignment of patients to these units; and (3) a sufficient personnel, comfortably housed, amply remunerated, and under capable leadership. While it is conceded that the primary objective is the safety of the patient, his care and comfort, the treatment he is to receive, and his restoration, the keystone on which rest all of these is the staff of medical, nursing, and hospital attachés assigned to his supervision and care.

Fifteen years ago, when one contrasted the type of buildings and the personnel of mental hospitals in Pennsylvania with those in other states as well as abroad, he found in Pennsylvania, to his delight, a substantial type of architecture adequate to meet the requirements. He also found these institutions manned by a loyal personnel whose high type of service, rendered under skilled leadership, extended over unusually long periods. Many other things equally as complimentary might have been said of the hospitals themselves, the care of the patients, and the efficiency of the then known methods.

A similar survey today, however, would reveal as many things in which Pennsylvania is behind as those in which she was previously ahead. For example, additional buildings are required to meet the recognized demands; additional therapeutic facilities need to be installed; there are no psychiatric hospitals in the state; the diagnostic and treatment sections of the individual hospitals cannot meet the scientific demands of acute cases of mental illness; few hospitals have convalescent buildings; few have colony buildings; very few have infectious-disease buildings; gymnasiums and chapel buildings in institutions are lacking; and some have no tuberculosis buildings.

When we study the third phase of the requisites, namely personnel, we find among the oldest groups in point of service the finest type of men and women—a type differing considerably from the rank and file in shops and strictly industrial organizations. Their life, their work, is centered in the institutions, and particularly in the patients under their care and supervision. They do not share in a profit-earning scheme; they do not strike for higher wages; and they cannot buy stock in the business. They do not have provided for them, as a whole, the type of dwellings, houses, living quarters, recreation centers, free dental dispensaries, or visiting nurses which are now proffered by industrial corporations for the mutual benefit of their employees. Neither do they expect such a scheme; but, in addition to adequate wages and pension privileges, they do anticipate in the not far-distant future, a home, be it ever so humble, free from the ward environment. While some progress has been made in meeting this anticipation, the usual findings will reveal housing conditions common to a remote period—that period in which it was customary to assign to the chief executive and his family quarters in the asylum buildings; to doctors, a single room with no modern facilities, libraries, reading, or social rooms; to nurses, rooms on the same hall, in the same ward with patients of all classes and conditions; and to other attachés quarters on the top floors without consideration given to light, ventilation, and fire protection. Other than class studies for the nurses, no opportunities are provided for recreation, diversion, or cultural development.

The Governor and the Legislature are to be ever kindly remembered for appropriations looking toward a correction of these conditions; but noble as they were, they were but a beginning. Aside from the monetary consideration, a ten-year building program will be needed to make the change complete.

These lines are not written in a spirit of criti-

cism, but to show that in the steps of progress new problems confront us: that we have reached a new epoch where an old and recurring situation—the care of the mentally afflicted—is again becoming distressingly acute. That Pennsylvania will meet it cannot be denied. Just how she will meet it remains to be seen in November when the bond issue is presented to the voters. Our hope is that whatever measure is adopted, it will carry with it the assurance of a program incorporating the fundamental requisites for the care of the mentally ill, one of the most important of which is proper housing of the hospital personnel.

PHYSICIANS' FEES AND STATE MEDICINE

An interesting incident is related by Dr. Jabez N. Jackson, president of the American Medical Association, concerning a prominent surgeon who was paid for only eight out of a hundred operations he did in the wards of a New York hospital, many of them on patients who came to the hospital in their limousines.

It has long been customary with physicians to accommodate their fees to the ability of the patient to pay. Practically, this results in those of better financial standing supplying medical attention to those with less resources. If, however, this privilege is abused by people apparently so well-to-do as the occupants of the surgical ward described by Dr. Jackson in the *A. M. A. Bulletin* for December, it is bound to result in injustice either to the physician who must contribute his services or to his paying patients who must carry the burden. As remarked by Dr. Alice S. Cutler, of Los Angeles, in a recent letter dealing with state medicine to the Philadelphia *Public Ledger,* since "physicians have to eat to live and have families to support, also bills to pay like other human beings, how can they afford to keep working people well and physically fit at all ages for nothing?" On the other hand, a group of intelligent lay people, discussing the question recently, were unanimous in the opinion that this system is defective—that uniform fees should be charged for uniform service, and that the state should pay for medical treatment required by residents who are unable to pay for it themselves.

This point of view would doubtless be greatly criticized by physicians as leading to state medicine; yet it is a point of view which will have to be reckoned with in the near future. The state (or community, which amounts to the same thing) pays for hospital service rendered charity patients, but no provision is made for the equally important medical service to these patients. Why should the physician give his services without return, and, on the other hand, why should his private patients be taxed for the charitable work required of him? Sickness is a problem which concerns every citizen of the Commonwealth, and while the heavy financial burden must necessarily come on those best able to bear it, yet, as with all other public responsibilities, it would be much more satisfactory to all concerned if it could be put on a more businesslike basis, and the expense of charity work be borne by all citizens in proportion to their ability.

This idea is presented for discussion. The JOURNAL does not wish to be considered its proponent. This editorial is but the mouthpiece to express a growing sentiment among the clientele of the medical profession. It is a sentiment with which, sooner or later, we shall have to deal, and the situation can be met more intelligently if thorough preliminary consideration is given to the subject.

CRIME PREVENTION

The recrudescence of notorious murder cases this winter is a reminder that, to quote H. Addington Bruce, "the old-time policy of punishment has signally failed to diminish the occurrence of crime." Great stress is now being laid on the prevention of disease in preference to its cure, but there is proportionately little discussion of the prevention of crime. Yet this is one of the most important subjects before society today.

Crime, like disease, arises from many causes. He who would attempt to eliminate all these causes by one remedy would be comparable to him who attempts to cure all diseases by adjusting the spine. Among the more prominent causes of crime are:

(1) Mental or physical abnormality.
- (a) Hereditary mental defects—insanity, epilepsy, feeble-mindedness, etc.
- (b) Syphilis.
- (c) Encephalitis.
- (d) Drug and alcoholic addiction.
- (e) Underdevelopment due to malnutrition.

(2) Social conditions.
- (a) Poverty, unemployment, or hard luck.
- (b) Bad environment and companions, and inadequate moral training.
- (c) Atypical cases for which there may be no apparent reason, or whose reason is largely individual.

The second group is of interest to the physician principally as a citizen. It is made up of conditions which are to a good extent due to defects of our social structure. The first

group, however, is one which is of particular interest to the physician and which requires medical study and supervision.

Figures presented by Dr. Horace V. Pike, clinical director of the Danville (Pennsylvania) State Hospital, in the *Mental Health Bulletin* published by the Hospital for the Pennsylvania Department of Welfare, show that from 1880 to 1923 the number of patients in hospitals for mental diseases increased from 81.6 to 245 per 100,000 population; that at least 400,000 of our population are feeble-minded; that from 25 to 50 per cent of the inmates of our jails and other penal institutions are feeble-minded, still another 10 per cent epileptic and highly unbalanced mentally, and at least 20 per cent psychopaths or moral imbeciles, leaving a possible 20 to 45 per cent of reasonably normal people in these institutions; that of our adult population, 4 per cent are said to be drug addicts; that it is estimated that from five to ten millions of our people are syphilitic, and fully 25 per cent of these are doomed to develop nervous and mental disease which will necessitate commitment to mental hospitals; that there are not less than 40,000 mental defectives at large in the community, 8,000 of these women of child-bearing age; and that in fully 50 per cent of the cases, the abnormal individual represents an unmistakable product of his ancestors.

For this hereditary group, segregation at an early age has been urged, both to prevent reproduction and to save these unfit individuals from coming under sinister influences which would lead them into crime, as well as to help them earn their own living under the care and guidance of the institution. For some of the higher types who could be trained for extramural life, surgical sterilization would provide a humane method of preventing them from reproducing their kind, while permitting them to live their lives outside the institution.

The control of venereal disease presents a problem which is far from being solved, as evidenced by the increase in syphilis recently reported by the New York State Department of Health. According to Dr. Pike, "Syphilis today represents purely and simply a lack of the application of prophylactic measures that any one may use successfully, and the sooner society at large ceases to talk of this disease as a 'social disease' and begins to call 'a spade a spade' and our state departments of health broadcast in their literature the specific methods of prevention, as they now talk of fresh air, sunshine, and sputum cups as measures to combat tuberculosis, the sooner the number of syphilitics will decrease." The policy of silence and secretiveness regarding this disease has led to more suffering than it has prevented, and it ought to be replaced by frank recognition of the facts and an honest effort at prevention.

It is only recently the fact has secured recognition that encephalitis, even though the attack be so light as to pass almost unrecognized, and even though it leaves no observable physical or intellectual residual, frequently produces a complete change in the character of its victim. Children who formerly were sunny-tempered and obedient, after an attack became sullen and intractable, and many cases of juvenile incorrigibility have been traced to their beginning following this disease. In the September, 1927, number of the Atlantic Medical Journal, Dr. William H. Mayer stated that "In children, we have seen a most striking behavior change .....Quite a few children become refractory, incorrigible, even vicious. In the adult, actual dementia is uncommon, but personality changes and regression are noted frequently."

Only recently a report reached us in which it was stated that English courts have established a connection between the epidemic of encephalitis lethargica of some six or seven years ago and the present crime wave among the youthful. That the present outbreak of juvenile crime in America may be traced to the same cause is a reasonable conclusion.

In the March, 1927, number of the Atlantic Medical Journal a study of postencephalitic boys in a hospital school was presented. In this article Dr. Daniel H. Fuller stated that "these boys are not feeble-minded nor mentally defective. Their intelligence tests average high, many of them being above the average school boy of his age. Their deficiency appears to be in the moral field." He described excellent results secured by means of proper environment and firm handling in the hospital school. "Corporal punishment or severe measures have never been resorted to, they having been proved inefficient before coming to the hospital.....The formation of new habits is a slow process. That a continuance under the present conditions may result in the formation of good habits of a lasting nature and the submersion of vicious tendencies, so rapidly developing, is our hope and expectation."

The prevention of crime resulting from deterioration of the moral sense caused by disease would require the hospitalization of such cases as soon as the intractability becomes noticeable. And these patients should not be released from observation until absolute assurance is obtained that they are no longer a menace to themselves or to society. After discharge from the hos-

pital, a long period of probation should be maintained, and the cases should be followed up until each one is established as a responsible member of his community.

An effort was made to solve the problems of drug and alcoholic addiction by the enactment of the Harrison Narcotic Act and the Prohibition Law. Whether or not these efforts will be successful, time alone will tell. The U. S. Public Health Service has recently announced that previous conclusions have been confirmed that drug addiction is, in general, a symptom of neuropsychopathic make-up. That addiction, whether narcotic or alcoholic, is a potent source of crime cannot be doubted, and any campaign for crime prevention must reckon with it. The great difficulty in effecting a permanent cure of such addiction is shown by the large numbers who relapse after being completely off the drug. Such patients, after release from confinement, should be followed up for a long time—probably a period of years—so that treatment may be resumed if there is any indication of a return to the habit. These people need supervision to tide them over times of unusual stress, and it is a measure of self-protection for society to supply it.

Feeding experiments with rats have shown that deprivation of necessary food elements will cause complete character reversal. Mother rats, normally good mothers, will frequently devour their young when they have been on a deficient diet for a sufficient length of time. It is therefore quite possible that character changes might occur with human beings, especially those whose diet in childhood was lacking in the qualities necessary to build normal bodies. Little research has been reported in this line, but it is scarcely to be doubted that proper food is a vital factor in the prevention of crime.

The recent proposal of Governor Smith of New York to have criminals sentenced by a board composed of psychiatrists, criminologists, and penologists is a reflection of the growing feeling that punishment of the criminal fails to go to the root of the matter—that it is the protection of society which must be considered first, last, and in between, and that present methods are inadequate. This was expressed in resolutions adopted in June, 1927, by the American Psychiatric Association recommending: That no maximum be set to any sentence. The release of prisoners upon parole or discharge only after complete and competent psychiatric examination and findings favorable for successful rehabilitation, to which end the advisability of a resident psychiatrist in all penal institutions is obvious. The permanent legal detention of the incurably inadequate, incompetent, and antisocial offenders, irrespective of the particular offense committed. The elimination of the use of the hypothetical question and the terms "insane" and "insanity" and "lunacy" and the exemption of the psychiatrist from the necessity of pronouncing upon concepts of religious and legal traditions on which he has no authority or experience such as "responsibility," "punishment," and "justice."

In 1925 a law dealing with "medical expert testimony" was introduced into the State Legislature, but failed due to the opposition of a branch of the legal profession. The great interest in the subject at the present time is indicated by the facts that the Tristate Medical Conference devoted its last meeting to the subject, and that the American Medical Association has a committee at work with a committee of the American Bar Association.

The difficulty of reconciling all the conflicting interests is great; yet the need is greater, and we look forward confidently to a time when crime prevention will be established on an equal basis with disease prevention.

THE DOCTOR'S NET INCOME

It was scientists who invented research; yet it is business which is applying the method of research to reduce operating expenses and increase income. Recently there was received at the editorial desk the account of a business survey in New England which showed how profitable solutions of sales, production, and employment problems are found in careful research. Operating expenses have been greatly reduced by standardization, sales methods have been improved by study of the market, and employment has been stabilized. This has suggested the thought that perhaps the physician's overhead could be reduced, his methods facilitated, and his productive ability increased by some such study applied to his profession. Such a study is not within the province of the editorial department. It would be work fit only for a commission representing the many ramifications of the profession, but a short survey in these columns may be suggestive.

The proportion of the physician's gross income which goes into overhead, of course, depends upon his practice. Perhaps a fair average would be fifty per cent, but it is safe to say that, beyond the limits of his personal capacity, the larger the practice the greater the percentage of overhead. The surgeon, for example, who maintains a private hospital for his own cases, will have a much larger relative expense account

than the one who utilizes the public institutions. Then there is the question of office equipment and assistants. Only when they are fully utilized do they increase the physician's earning capacity in proportion to the expense. Many physicians have cut down expenses by using a waiting room in common with brother practitioners. Others have arranged their office hours that the rooms may be occupied in relays, so to speak.

These plans make it possible to share the services of office attendants and clerical help. Such devices for reducing overhead have been put into effect mainly in the larger cities, but there would seem no reason why they could not be used with good effect in the smaller places. This might conceivably lead to a type of group practice. Such combinations as a general practitioner, an eye, ear, nose, and throat specialist, a laboratory worker, and a roentgenologist can be of inestimable help to one another in both their professional and their business relations.

There has been a growing tendency for physicians to locate in "medical neighborhoods." There will be particular streets, particular blocks, particular buildings which will be especially popular for medical offices. It has been found to be good psychology, and it is financially profitable to group professional offices in this manner. Why, then, would it not be more profitable to group such offices still more closely in the same suite? Many practitioners have found it so, and it is more than probable the method is due to be expanded.

It seems illogical that movie actors and prize fighters can claim such large rewards in proportion to the preparation necessary and to the unimportance of their service, when physicians, whose profession is the very backbone of civilized development, receive comparatively such small recompense after their years of preparation and often dangerous labor. This appears, however, to be the penalty for individual ministration to a limited number of patients. If the doctor could multiply himself so that he could treat several million patients in one night, as the moving-picture actor entertains his several millions, he would be able to compete financially with the most celebrated entertainers in the land—for health has become the most popular subject now talked of.

Research may reveal methods by which the doctor may be able to multiply his services. Public-health methods minister to wide needs. Periodic examinations increase the number of people cared for, and present an increasingly appreciated branch of practice. Lay education, as proposed by the American Medical Association and the Medical Society of the State of Pennsylvania, should provide a clientele with increased intelligence, and should lessen the time required to overcome "advice resistance" on the part of the public. Coöperative methods are unquestionably a help to the individual practitioner, and we venture the prophecy that they are now only in their infancy.

Other factors of overhead which are worth investigating are the cost of transportation and standardized office equipment. The physician's automobile provides a constant subject for argument. Some men believe that the more expensive cars make a better showing and are a good investment. It would seem that the physician, when selecting a car should use economical common sense and choose the one best suited to his professional and social needs and financial status. Because of these varying factors, it is doubtful whether a standardized physicians' car will ever be in demand, although it would have its good points as a means of instant identification. The idea, at least, is worth considering.

Standardized office and hospital equipment has already been much discussed. The U. S. Department of Commerce has recommended standardization of hospital supplies to reduce cost. It would seem that the same principles should apply to the physician's office equipment. This is a problem which would require much study to determine exactly what could be eliminated and what type would be most useful. In the mills of a New England woolen-goods manufacturer, research has reduced the number of shades and tints from 160 to 30, and production has doubled. In another factory, infrequently called-for machines and parts were eliminated and inventories decreased 58 per cent. Such standardization, if properly conducted, in the line of physicians' equipment and supplies might result in great reduction of costs so that the average office could be much better equipped at considerably less expense. The subject has immense possibilities.

THE PATHOLOGIC OPTIMIST

While much has been written concerning the abnormal found in the personality studies of painters, artists, poets, statesmen, and great revolutionary leaders, one seldom finds a reference to the pathologic optimist.

This deficiency is somewhat met by George Arliss in "Up The Years From Bloomsbury" by presenting to us Bill Trafford, a frequent visitor to the tavern. Trafford was more than sixty. He wore a broad hat and a flowing mustache. His gestures were broad. He was

grandly optimistic. His day was always coming. He was to revolutionize music. He was always in need of funds, and in approaching Arliss, Senior, he said, "You would have the opportunity of being able to say to your children I once had the privilege of lending Bill Trafford ten shillings. You see me now in the common pothouse asking you for a shilling—begging for a shilling. In a week—month—or three months perhaps you will see me rolling along in my carriage and pair. You ask me why? How? My discovery of the unfinished score of Mozart. A shilling dear Arliss till Monday." And as Arliss states this was not a story invented for the shilling, but he believed every word of it. Furthermore, nothing ever came of it; but he was an optimist to the end, and in the interim his wife sang and paid the room rent.

It would appear that the pathologic optimist is a decided entity. He is not to be confused with the visionary, the pathologic liar, the day dreamer, or the stock swindler. We no doubt meet him frequently in our everyday sojourns. He is entitled to recognition and should be placed as a decided entity in literature. Will not some able writer thus portray him?

JOTS AND TITTLES

Research and Discovery

According to *Hospital Topics & Buyer,* Dr. Felix d'Herelle, a British Government physician, has come out of India with a bacteriophage for the treatment of cholera. With it he has been able to immunize the population in large areas against the dread disease. Administered by mouth, this bacteriophage is said to destroy the cholera germs in the intestines; put into the wells, the principal source of cholera in the orient, the substance destroys the cholera organisms and purifies the drinking water.

Dr. Francois Ody, of the Cantonal Hospital, Geneva, Switzerland, is reported to have grafted the pancreas of a chimpanzee on a man about 60, with the patient progressing favorably.

From Princeton University comes the announcement that it is believed low-wave-length radio broadcasting apparatus could produce fever in the human body. It was said that experiments conducted by Prof. William G. Richards and Alfred E. Loomis, of the Loomis Laboratory, Tuxedo Park, N. Y., showed the heating effects of various wave lengths on salt solutions. The perfection of the experiment, it was believed, would lead to new treatments of diseases which yield to high bodily temperature, such as paresis.

Dr. Agnes Blum, of the Kaiser Wilhelm Institute for Biological Research in Dahlem, near Berlin, believes that fathers moderately addicted to alcohol are most likely to have male children, while the offspring of a temperate male parent are preëminently girls. Her conclusion, which has been deduced from experiments on animals since 1921, has been accepted by many German scientists, while others maintained that the results were due to racial peculiarities of the animals experimented upon.

According to a correspondent of the *Journal of the American Medical Association,* a toxin of fatigue, announced some years ago by Weichardt, has been rediscovered by Radoceanu. When injected into animals, the toxin is said to cause intense fatigue, fall of temperature, stupor, and death. An antitoxin has also been separated which seems to have a remarkable stimulating action on the muscles.

The Campaign Against Cancer

It is surprising to read in the *Campaign Notes* of the American Society for the Control of Cancer (May, 1928) that the total sum of money which was spent for cancer research throughout the world was not over $400,000 a year, including the salaries of those engaged in scientific research into the causation of cancer and other aspects of the subject. The total number of qualified research workers now engaged upon the cancer question, it is said, is not nearly so great as commonly supposed, and the number of institutions which are devoting all or a large share of their attention to the investigation of the fundamental secrets of cancer is very small. There is great need for better financial support.

Committees are being formed throughout the world, according to the *Medical Journal and Record* for May 2, 1928, to coöperate in a plan of study proposed by Dr. A. L. Soresi, of New York. To quote from the doctor's article, "The cancer problems should be studied in the following manner: first, a thorough study of the precancerous cells; second, investigate conditions which cause the normal cell to become cancerous; third, study how to prevent or cure the ravages caused by the cancerous cell. The first two problems could be studied and perhaps solved in a comparatively short time in the following manner: An invitation is sent to all interested in cancer problems to study thoroughly one of the most common organs affected by cancer, we propose the uterus or the female breast. The uterus or breast of females dying for any cause after the age of thirty should be examined microscopically. Any cellular change noted should be recorded, even when such change appears trivial. Regional, national, and international meetings in succession would be arranged in order to discuss the results obtained. Central, regional, national, and international bureaus should be organized in order to direct and systematize the work done by individual, regional, national, and international groups." Sufficient funds and coöperation have been promised to make a material start possible. The plan is magnificent in its simplicity, and would seem to promise results that bespeak general coöperation and support.

The subjects to be discussed at the international cancer convention to be held in London July 16 to 22 under the auspices of the British Empire Cancer Campaign are of interest because they approach the subject from a somewhat unusual angle. Among the topics to be discussed will be: the biologic effects of radium and x-rays; the effects of radium and x-rays on the blood, vascular and lymphatic systems, with special reference to the treatment of malignant growths; occupational cancer; the relations between clinical malignancy, histologic characters and response to treatment; diagnostic methods; the geographic and racial prevalence of cancer; and public action in regard to cancer.

In the meantime, Massachusetts conducted an intensive campaign of public instruction on the practical aspects of cancer control during the five days from April 23d to 27th. The two points of greatest interest for us in the report of this campaign are that investigations have been made of the *personal habits* of fifty

cancer patients and that statistical studies of the original death records filed in the State Bureau of Vital Statistics have been carried on. Visiting nurses throughout Massachusetts are filling out questionnaires which give in detail information regarding the habits of cancer patients, and the habits of persons who are not cancerous are reported as a means of control. All these data are sent to the Department of Public Health for careful study.

During the past year our own Cancer Commission has been making an extensive research into the problems of cancer. We shall await the publication of their report in the September number of our Journal with a great deal of interest.

Thank You! New York

The commercial exhibitors said that they liked to attend the meetings of the Medical Society of Pennsylvania because the officers of that Society made great efforts to arouse the interest of the doctors. An announcement of the exhibit is made several times at each session of each Section and in addition special mention is made of the exhibits in which the members of a Section are interested—surgical instruments in the Surgical Section, electrocardiograms in the Medical Section, and infant foods in the Pediatric Section. A further feature of the Pennsylvania Society is that each Section adjourns one of its sessions earlier and its members attend the exhibits in a body and visit the booths whose wares especially apply to the members of the Section.—*New York State Journal of Medicine,* June 15, 1928.

Gossip About Our Confreres

Speaking of New York, it is still a mystery to us why our friends up there secured a divorce from the Coöperative Medical Advertising Bureau conducted by the American Medical Association for the benefit of the State Journals. The editor of the *Journal of the Indiana State Medical Association,* however, thinks he has solved the conundrum, since New York is carrying advertising of antiphlogistine, alka-zane, Colwell's hormones, and other types of medication not approved by the Council. He says, "As a matter of fact we can arrive at but one logical conclusion as to the reason for such withdrawal and it is summed up in the one word 'commercialism.'" Now, really, we should be sorry to impute any such unworthy motives to our next-door neighbors, even though we regret to see them falling below the accepted standard among ethical journals.

We must admire, however, the courage with which the Indiana editor attacks the wrong, as he sees it, in any quarter. He even berates the *Journal A. M. A.* for carrying advertising of the California Fruit Growers' Exchange "to the effect that the American people are suffering from acidosis which may be corrected by a more liberal consumption of California oranges." He tells the Methodists and Presbyterians just what he thinks of their recent controversy over evolution, pays his respects to religious publications which carry in their advertising pages "the blatant and untruthful advertisements of the worst types of swindles . . . from worthless mining stocks to the most glaring medical frauds"; and exposes the plan of Macfadden of *Physical Culture* fame to induce physicians to sign on the dotted line cards condemning medical practices and endorsing his methods of treatment by physical culture.

We have spent a most diverting half hour with Indiana's militant editor. Long may he wave!

State Society Dues

Since the subject of dues is coming before our House of Delegates in October, the following list of dues in a number of state societies, published by the *Journal of the Maine Medical Association* in May, is presented for the study of those interested:

Society	*Dues*	*Total Rec'd.*
District of Columbia	$20.00	$11,000.00
Arizona	15.00	3,000.00
Minnesota	15.00	30,000.00
California	10.00	43,000.00
Florida	10.00	10,000.00
New York	10.00	111,000.00
Michigan	10.00	30,000.00
New Jersey	10.00	23,000.00
Rhode Island	10.00	4,000.00
Texas	10.00	36,000.00
Vermont	10.00	3,700.00
West Virginia	10.00	11,000.00
Wisconsin	10.00	20,000.00
Illinois	8.00	58,000.00
Missouri	8.00	26,000.00
Nebraska	8.00	3,000.00
Massachusetts	8.00	35,000.00
Indiana	7.00	19,000.00
Nevada	7.00	600.00
Idaho	6.00	1,000.00
Colorado	5.00	6,000.00
Delaware	5.00	800.00
Georgia	5.00	8,000.00
Kansas	5.00	8,000.00
Kentucky	5.00	10,000.00
Montana	5.00	2,000.00
New Mexico	5.00	1,000.00
North Dakota	5.00	2,000.00
Ohio	5.00	26,000.00
Pennsylvania	5.00	38,000.00
South Dakota	5.00	2,000.00
Utah	5.00	2,000.00
Virginia	5.00	9,000.00
Washington	5.00	6,000.00
Connecticut	4.00	5,000.00
Louisiana	4.00	5,000.00
Maine	4.00	3,000.00
New Hampshire	4.00	2,000.00
Oklahoma	4.00	7,000.00
Tennessee	4.00	6,000.00
Alabama	3.00	5,000.00
Arkansas	3.00	4,000.00
Mississippi	3.00	3,000.00
North Carolina	3.00	5,000.00

Care of Casualty Cases

"The American College of Surgeons is conducting a campaign to bring about adequate medical care of persons injured in accidents. A two-year survey of casualty cases receiving emergency treatment in hospitals throughout the United States has recently been completed by a research board appointed by the College. Their report shows that the annual loss to industry on account of injuries to employees is $1,250,000,000. Methods are suggested by which this loss could be reduced by at least $200,000,000. The survey, endorsed by a resolution of the Illinois Manufacturers' Association, revealed that a large number of accident cases are taken to poorly equipped hospitals and cared for by surgeons who are incompetent and in many cases unethical."

This item, quoted from the *Medical Journal and Record,* reminds us of the charge that in a certain large city of a sister state one of the hospitals has subsidized all of the taxi drivers so that accident victims, even though they are able to express a preference, are taken to this hospital. Criticism has attached not

only to this procedure but also to the handling of such cases once they are in the hospital. Perhaps the American College of Surgeons needs to institute a clean-up.

A Clinic for the Middle Class

The interest in economic problems associated with medicine seems to be growing rapidly; as evidence the organization of the Committee on the Cost of Medical Care, the widespread interest in public-health problems, many of which are economic, the establishment of associations of varied types for study and application of economic principles in prevention and treatment of disease, etc. An effort to meet the needs of the great middle class, for whom it has been said there is no place in the modern hospital, has recently been made by Johns Hopkins University, where a clinic has been opened for diagnosis only. It is planned to charge but $10 as the usual fee and $25 as the maximum. All patients will have the attention of the best hospital experts. Treatment will not be given, but reports of the diagnosis will be forwarded to the recommending physician. The Carnegie Foundation has given the clinic an endowment of $2,000,000.

A "Robot" for Administering Anesthesia

A professor in the University of Maryland is said to have devised an automatic anesthetizer which is regulated by the respiration of the subject. It prevents an under- or overdose of the anesthetic, and in one case kept an animal unconscious over night without human assistance.

PUBLIC HEALTH

Activities of the Pennsylvania Department of Health.—The course of instruction in public-health practice offered at the United States Army Field Medical Service School at Carlisle was recently concluded for this term. Eleven State Health Department officers and eleven borough officers took the course. Under the provision of an act of the last Legislature all borough and first-class township officers are required to have either training or experience in public-health procedure, acceptable to the Secretary of Health, before entering upon their duties. State health officers who have been so trained to date number 62.

The Bureau of Vital Statistics reports that birth registration in Pennsylvania is rapidly approaching the goal set for attainment a year ago. The success of this work is attributed to the activities of representatives of the Bureau, general newspaper publicity, and the coöperation of physicians and midwives.

Six hundred boys and girls are now receiving the sun treatment at the children's summer camps annually established at the State sanatoria of Cresson and Mont Alto. The treatment is given not only to those who are actually suffering from tuberculosis but to many undernourished children as well.

The midwife problem in Pennsylvania is approaching a satisfactory solution. At the beginning of the campaign, 525 midwives were operating, largely among the foreign population in mining counties. Of this number, 325 have been put out of practice because of their lack of training and ability. Classes of instruction for licensed midwives have been most effective, and were under the direction of a full-time medical woman connected with the Department. The net result has been a marked reduction in maternal and infant mortality.

The annual sanitary survey of second-class townships now under way involves a house-to-house inspection and the elimination of any nuisances discovered. More than 50,000 properties will be reviewed. All tourist camps within the Commonwealth will also be inspected.

Two dental hygienists comprised the entire force of the Commonwealth when the Department took up this work in 1920. At present 200 qualified hygienists are at work in the schools and public institutions.

A survey is being made to discover the possibility of having a model housing ordinance adopted in many first-class townships, boroughs, and small cities, based on the Housing Act of 1927. The ordinance includes not only the regulation of living conditions in apartments, flats, and tenements, but also in single and double family dwellings.

The school division of the Department, during the present school term, supervised the physical examination of 456,928 school children in 14,824 schools of the fourth-class school districts. Physical defects requiring treatment and correction were found in 303,146 pupils.

A Survey of Sickness in Rural Areas in Cortland County, New York.—The Cornell University Agricultural Experiment Station has recently completed a noteworthy survey to determine the effect of sickness on the life of the farm family. The full report by Dwight Sanderson (Memoir 112, March, 1928) can doubtless be secured on application to the University at Ithaca, N. Y. Space forbids a full review, but following are some of the most striking facts brought out:

Three townships were selected for study—Willet, Virgil, and Harford. There is a striking difference in the ages of village and farm population. The four villages include but 23 per cent of the population, but they have 38 per cent of the people 65 years of age or over. The villages have 25.2 per cent under twenty years of age, while the farms have 37.7 per cent. Of the people in the villages, 49.6 per cent are over 44 years old, against 31.4 per cent of those outside the villages. These differences in age groups seem to be an important factor in determining the higher sickness rate in the villages.

The total population of the three townships is 2,060 and practically all of the inhabitants are of native white stock. In the village of Willet, records obtained from 31 families showed an average total expenditure of $974.16 as compared with $1,015.69 for the 80 farms of Willet. The records of the 142 farm families in Willet and Virgil showed that the expenditures for health comprised 5.9 per cent of the goods purchased, while among 31 families of the village of Willet the health costs were 8 per cent of the goods purchased.

The average length of all sicknesses in the country was 23 days, against 28 days in the villages, and the number of days of sickness per capita was 5.17 in the country against 7.37 in the villages. The percentage of families in which some sickness occurred during the year was 46.5 for both farm and village families. There was a much higher birth rate in the country, the average being 24.5 per thousand population against 15.5 per cent in the villages. Although the actual number of accidents in the country was practically the same in proportion to the population as in the villages, the number of days of disability was 0.78 per capita on the farm as against 0.48 in the villages. Eighty-three per cent of the accidents were incurred by males. Excluding confinements and accidents, there were 3.91 days of sickness per capita in the country as against 6.43

days for the villages, probably due chiefly to the difference in age distribution.

Of particular interest is the tabulation showing total cost of confinements, including doctor, nurse, and employed help:

46 cases with no employed help nor nurse (of these 21 had an average of 14 days of unpaid help, and 25, or about one-fifth of the total number of cases, had no outside help), average total cost $21.39;

26 cases with hired help but no nurse, average total cost $40.34;

15 cases with nurse and hired help, average total cost $113.66;

31 cases with nurse only, average total cost $63.22;

13 cases at hospital, average total cost $103.88 (8 cases in wards averaged $65.62, and 5 cases in private rooms averaged $165.80).

The average total cost for 131 cases was $53.80.

In view of the recent decrease in the number of country doctors, special attention was paid to this problem. In the three townships studied, only Harford has a resident physician. Both Virgil and Willet had resident physicians prior to the war, and their people were firmly convinced of the need of a resident physician and that, because one had previously made a living there, it would be possible to do so now. Were all of the nonhospital practice in the townships of Virgil and Willet to go to a single physician in each of these townships, there would be a possible income of $4,347 in Virgil and of $2,517 in Willet. Deducting overhead expenses, this is quite inadequate to furnish a living to a physician in Willet.

The income and expenses of rural physicians are indicated by the replies received in a questionnaire sent out by the Committee on Medical Economics of the New York State Medical Society and quoted by Mayers and Harrison: "Approximately one hundred returns, made by physicians located in villages having only one or two physicians, show an average gross annual income of $5,648 and professional expenses of $2,305, leaving a net income of $3,343." On this basis a physician in Virgil who had all of its practice would have a net income of only $2,000, which, in comparison with the average income, is hardly sufficient to be attractive. Owing to the fact that the physicians in the surrounding villages are equally near to the periphery of the township, a physician in Virgil could not expect more than two-thirds of the town's practice, and it is therefore unlikely that Virgil could support a resident physician.

One of the complaints frequently heard regarding medical service in rural communities is that the charges of the physicians, particularly of city physicians, are so high that farmers cannot afford to pay them unless absolutely necessary. In general, the physicians' charges were found to be fairly reasonable considering the distance that was traveled, ranging from $2.10 to $5.00 in the case of physicians located outside of Cortland City. Physicians from the latter place were reported as charging from three to six dollars within a radius of ten miles. However, the cost for those farms more than five miles distant from a physician is so great as to deter the employment of one except when absolutely necessary. Nearly one-fifth of the families in Virgil made some statement with regard to the difficulty of getting medical attendance, especially at night and in winter.

In *The Distribution of Physicians in the United States,* Mayers and Harrison come to the conclusion that "it will require a rural population of not less than 1,000 to account for the full time of a competent physician," and that in rural places of less than 1,000 inhabitants there was in 1923, in the Middle Atlantic States, an average of one physician to 1,103 persons.

These considerations seem to justify the query as to whether in a township with the population of Virgil (1,093), and at such a distance from physicians, there is not a real need of a resident physician. If the town, either as a town or through a voluntary association, would guarantee a fair share of his salary, would it not be as reasonable for the State to contribute toward his salary as to contribute to the salary of the country school teacher? Is not health of as much importance as education?

The totals for all direct expenditures by families in the three townships for the maintenance of health are as follows:

Local doctors	$7,219.50
Nonlocal doctors	3,617.00
Dentists and oculists	4,958.25
Nurses	1,381.00
Extra help in house during sickness	665.00
Hospital	2,313.90
Medicines	2,823.70
Total expenditures	$22,978.35

In view of the facts given above, the question may well be raised whether it would not be a good investment for the people of Cortland County to support a county health department, with a competent medical officer in charge who could study the health needs of the rural towns, and with a sufficient number of public-health nurses adequately to cover the county.

Infant Mortality in Pennsylvania.—Dr. Samuel McClintock Hamill, State chairman of Child Health Day, declared that baby deaths in their first year have been reduced over 50 per cent in Philadelphia during the last twenty years. He predicted that another decade will see a still greater reduction. At present, out of every thousand babies born, sixty-three die in their first year of life. Other sections of Pennsylvania lag behind Philadelphia in its mortality rate, declared Dr. Mary Riggs Noble, of Harrisburg, chief of the Preschool Division of the State Department of Health. Lack of interest in prenatal care was given as the reason. "While infant mortality in its entirety has decreased," said Dr. Noble, "there is no appreciable difference between 1906 and 1926 in the number of deaths of newborn babies. More than half of the deaths for the first year occur before the first month after birth. The maternity rate is just as high today as twenty years ago. This distressing high rate for newborn babies and their mothers will not be decreased till women appreciate the value of prenatal clinics. Philadelphia maintains about fifty clinics, as compared with not more than forty such centers scattered through the rest of the State."

Insulin Distributed in Ontario.—Some 1,030,000 units of insulin were distributed free by the Government of Ontario, Canada, during the month of April, according to a report submitted to Dr. Forbes Godfrey, Minister of Health. Distribution and manufacture was carried out at a total cost of $4,120, or an average cost of $5 each for the 824 patients in the province receiving the serum. In Toronto 291 patients were given treatment at a cost of $1,595, over 398,900 units of insulin being distributed.

Tuberculin-Testing of Cattle.—In February, 52,245 cattle were tuberculin-tested in Pennsylvania. Of these,

2,369 (less than 5 per cent) reacted. There are now eleven counties accredited as free of bovine tuberculosis, and nine others completely tested but not accredited as yet. In the territory surrounding Baltimore, Md., it is reported by H. E. Denlinger, statistician of the Maryland State Dairymen's Association, that there has been a steady increase in the production of milk during the last three years in spite of a decrease in the number of cows. The campaign of tuberculin-testing conducted in that region is indirectly credited with the increase, since better cows have taken the place of the reactors in most instances, and Maryland dairymen have given more attention to care and feeding following the establishment of herds on a health basis.

A New Larvicide for Mosquitoes.—That commercial borax in a concentration of 1.5 grams per liter of water is an efficient larvicide for mosquito larvæ is reported by Robert Matheson and G. H. Hinman in the *American Journal of Hygiene* for March, 1928. Borax does not stop egg-laying and hatching, but the young larvæ do not live for more than two days. The method may be applied to fire barrels, etc.

Inmates of Pennsylvania Almshouses.—In December, 1926, according to the State Department of Welfare, there were 10,215 inmates of almshouses in Pennsylvania. Of these, 3,086 were 70 years of age and over, and 40 per cent of all inmates were ill and in need of medical care and nursing. The total cost of maintaining almshouses in 1926 was $4,148,026, and $1,426,337 was distributed to 54,714 persons for out-door relief.

Maternal Mortality.—In Pennsylvania, the average death rate from puerperal causes in the five years from 1923-27 was 6.3 per 1,000 total births as compared with an average of 6.6 in the five-year period from 1908-12. This gives a rate of 111 per 100,000 married women of child-bearing age, a specific rate higher than that for any disease in the same age period. Of these maternal deaths, about 40 per cent were from septicemia, 25 per cent from albuminuria and convulsions, and 35 per cent from all other puerperal causes. The explanation of this continued high maternal death rate is not apparent from the statistics alone. The situation is much the same in all the states of the registration area and probably in foreign countries.

The distribution by counties is of interest: Montour, with a rate of 15.8, being the highest; Dauphin next, with 8.4; and Lehigh and Center following, with 8.2. Other high rates are found in Bradford, Fulton, Lackawanna, and Schuylkill. Pike reports no maternal deaths, and Forest and Cameron only one each. Of the counties reporting 20,000 or more births in five years, the highest mortality occurred in Lackawanna and Schuylkill, and the lowest in Northampton and Fayette. Of the larger counties, Washington, Westmoreland, Montgomery, Lancaster, and Cambria were well below the average, while Philadelphia, Allegheny, and Berks were above the average although not among the highest. The Bureau of Vital Statistics of the State Department of Health supplies these figures, with a request for comments and possible explanations of these varying rates from readers in the various counties. *The Vital Statistics Bulletin* for May, 1928, presents a most interesting map showing the puerperal mortality in all counties of the State. A copy will be available on request to the Bureau at Harrisburg, Pa.

In New York State, the Vital Statistics Division has just completed a study covering the years from 1921-25 as compared with 1916-20. From 1915-25 the death rate from all puerperal causes was 58.5 per 10,000 total births. As noted in *Health News,* the death rates in most foreign countries are lower than in New York and in the United States. Experts agree that one of the leading causes of excessive mortality is needless obstetrical interference. Maternal mortality is definitely related to the age of the mother. With the exception of a slight peak in the group fifteen to nineteen years, the rise in maternal mortality from the low point between the ages of twenty to twenty-four years parallels the rise in age. Maternal mortality varies with the seasons of the year. The highest rates were recorded in late winter and early spring, the lowest rates in late summer and early fall. There was an increase of 6 per cent in the urban rate, and a decrease of 26 per cent in the rural rate. The increased hospitalization of rural mothers in all probability accounts for some of the changes which occurred in the urban and rural rates.

Yellow Fever Research in West Africa.—A commission of the Rockefeller Foundation has been for two and a half years at work upon the problem of yellow fever in West Africa. The chief questions for which answers are being sought are: Is the African disease identical with that which has been nearly banished from Mexico and Central and South America? Is the African fever spread by the same mosquito, the female stegomyia *(Aëdes ægypti)?* What is the microbe which the mosquito carries from person to person? Are there in West Africa local endemic centers, such as Habana and Panama once were? After many unsuccessful experiments, it was finally found that an Indian monkey, the *Macacus rhesus,* was susceptible to the infection. The importance of the discovery of an experimental animal is very great. It opens up a wide range of possibilities which are being systematically explored. Evidence seems to be accumulating which ought, in the early future, to answer the first of the commission's questions. As to the responsibility of the stegomyia there seems to be no doubt. Work upon the other problems is already under way, and will be carried on steadfastly.

Services of the Rockefeller Foundation in 1927.—During 1927, the Rockefeller Foundation, in disbursing from income and capital $11,223,124 (1) aided local health organizations in eighty-five counties of six states in the Mississippi flood area; (2) operated an emergency field training station for health workers in this region besides contributing toward the support of nine other training centers elsewhere; (3) assisted nine schools or institutes of public health and three departments of hygiene in university medical schools; (4) gave aid to seventeen nurse training schools in nine countries; (5) furnished funds for land, buildings, operation, or endowment to nineteen medical schools in fourteen countries; (6) supported the Peking Union Medical College; (7) paid two million dollars toward a new site for the University of London; (8) helped Brazil to maintain precautionary measures against yellow fever; (9) continued studies of that disease in West Africa on the Gold Coast and in Nigeria; (10) had a part in malaria-control demonstrations or surveys in eight states of the southern United States and in eleven foreign countries; (11) aided nineteen governments to bring hookworm disease under control; (12) contributed to the health budgets of 268 counties in twenty-three states of the American Commonwealth and of thirty-one similar governmental divisions in fourteen foreign countries; (13) helped to set up or maintain public-health laboratory services or divisions of vital statistics, sanitary engineering, or epidemiology in the national health services of nineteen countries abroad and in the state health departments of sixteen American states; (14) made

grants for mental-hygiene work in the United States and Canada; (15) provided funds for biological research at the Johns Hopkins University and aided investigations in this field at Yale University, the State University of Iowa, the University of Hawaii, the Bernice P. Bishop Museum in Honolulu, and certain universities of Australia; (16) helped the League of Nations to conduct study tours or interchanges for 125 health officers from forty-four countries, to supply world-wide information about communicable diseases, to train government officials in vital statistics, and to establish a library of health documents; (17) provided, directly or indirectly, fellowships for 864 men and women from fifty-two different countries, and paid the traveling expenses of 115 officials or professors making study visits either individually or in commissions; (18) made minor appropriations for improving the teaching of the premedical sciences in China and Siam, for the operating expenses of hospitals in China, and for laboratory supplies, equipment, and literature for European medical centers which have not yet recovered from the after-effects of the war; (19) lent staff members as consultants and gave small sums for various purposes to many governments and institutions; (20) made surveys of health conditions and of medical and nursing education in fourteen countries.

Public Schools and Health.—A study is now being conducted by the American Child Health Association to discover just how successful the public schools have been in promoting their pupils' health.

Morbidity in Pennsylvania in April, 1928

Locality	Disease				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Aliquippa	5	90	0	0	5
Allentown	14	222	64	1	18
Altoona	1	86	26	0	4
Ambridge	4	7	9	0	0
Beaver Falls	1	77	12	0	2
Berwick	0	3	4	0	0
Bethlehem	5	9	25	0	6
Braddock	0	6	0	0	8
Bradford	0	11	3	0	9
Bristol	0	2	1	1	7
Butler	1	76	0	0	10
Canonsburg	1	0	0	0	0
Carbondale	4	0	3	0	0
Carlisle	0	0	0	0	0
Carnegie	0	5	1	0	0
Chambersburg	0	14	1	0	0
Charleroi	0	1	2	0	1
Chester	2	54	6	0	0
Coatesville	0	0	1	0	0
Columbia	0	1	0	0	0
Connellsville	0	1	0	0	0
Dickson City	0	14	0	0	0
Donora	0	1	1	0	0
DuBois	2	40	8	0	0
Dunmore	14	1	10	0	3
Duquesne	3	2	5	0	1
Easton	0	144	1	0	3
Erie	15	10	83	0	26
Farrell	0	0	2	0	0
Greensburg	0	3	2	0	0
Harrisburg	1	66	34	1	13
Hazleton	1	101	1	0	3
Homestead	1	0	1	0	1
Jeannette	2	19	0	0	0
Johnstown	34	6	5	0	12
Lancaster	2	31	3	0	41
Lebanon	0	2	8	0	0
McKeesport	1	27	11	0	1
McKees Rocks	1	3	0	0	0
Mahanoy City	0	0	1	0	0
Meadville	0	1	1	0	3
Monessen	1	1	0	0	0
Mount Carmel	1	5	2	0	0
Nanticoke	1	2	0	0	0
New Castle	0	112	5	0	0
New Kensington	0	0	5	1	0
Norristown	1	12	6	0	0
North Braddock	1	7	1	0	0
Oil City	1	0	1	0	0
Old Forge	3	0	1	0	0
Olyphant	0	0	1	0	0
Philadelphia	190	3,422	376	1	273
Phoenixville	1	2	2	0	0
Pittsburgh	64	708	127	2	119
Pittston	1	8	0	0	0
Plymouth	7	23	4	0	0
Pottstown	2	2	13	0	0
Pottsville	0	2	5	0	3
Punxsutawney	2	0	1	0	0
Reading	1	39	82	0	20
Scranton	10	31	4	1	9
Shamokin	1	0	0	0	3
Sharon	2	4	5	0	4
Shenandoah	2	0	0	0	0
Steelton	1	40	5	0	2
Sunbury	0	0	0	0	1
Swissvale	0	7	1	0	0
Tamaqua	0	21	4	0	1
Uniontown	0	3	4	0	1
Warren	0	0	8	0	1
Washington	0	35	2	0	0
West Chester	0	11	4	0	1
Wilkes-Barre	20	172	2	0	7
Wilkinsburg	2	23	3	0	11
Williamsport	1	1	6	0	36
York	0	28	33	0	0
Total Urban	431	5,857	1,048	8	669
Total Rural	255	3,050	890	27	440
Total State	686	8,907	1,938	35	1,109

Morbidity in Pennsylvania in May, 1928

Locality	Disease				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Aliquippa	1	38	4	0	7
Allentown	13	288	25	1	5
Altoona	1	69	18	1	0
Ambridge	8	5	8	0	2
Beaver Falls	0	34	6	0	2
Berwick	0	1	5	0	0
Bethlehem	3	28	14	1	18
Braddock	0	15	5	0	2

Locality	Disease				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Bradford	1	9	3	0	0
Bristol	0	17	2	0	7
Butler	0	58	0	0	0
Canonsburg	0	1	0	1	1
Carbondale	2	1	0	0	0
Carlisle	0	1	1	0	0
Carnegie	2	12	1	0	0
Chambersburg	0	10	3	0	0
Charleroi	0	1	4	0	2
Chester	7	133	0	0	1
Coatesville	0	4	0	0	2
Columbia	0	0	0	0	2
Connellsville	0	1	1	0	0
Dickson City	0	6	0	0	0
Du Bois	1	77	8	0	0
Dunmore	1	0	0	0	0
Duquesne	1	1	11	0	0
Easton	3	98	1	0	1
Erie	11	21	60	0	27
Greensburg	0	7	1	0	0
Harrisburg	2	110	24	0	18
Hazleton	1	102	4	0	0
Homestead	3	1	0	0	0
Jeannette	2	6	0	0	0
Johnstown	8	77	11	0	1
Lancaster	1	11	1	0	15
Lebanon	2	3	4	2	1
McKeesport	1	0	9	0	0
McKees Rocks	2	1	0	0	0
Mahanoy City	0	0	2	0	0
Meadville	1	3	0	0	7
Monessen	3	0	1	0	0
Mount Carmel	1	45	4	0	0
Nanticoke	1	0	1	0	0
New Castle	5	94	4	0	0
New Kensington	1	6	2	0	0
Norristown	4	62	0	0	12
North Braddock	0	4	2	0	1
Oil City	0	2	0	0	3
Old Forge	0	1	1	0	0
Olyphant	1	6	0	0	0
Philadelphia	243	6,266	416	10	377
Phoenixville	1	3	5	0	0
Pittsburgh	86	464	134	2	116
Pittston	2	2	0	0	0
Plymouth	2	0	5	0	0
Pottstown	4	3	35	0	1
Reading	3	93	61	1	34
Scranton	6	68	13	0	7
Shamokin	0	1	1	0	6
Sharon	1	0	1	1	4
Shenandoah	5	0	0	0	0
Steelton	0	166	5	0	2
Sunbury	0	0	0	0	2
Swissvale	0	9	3	0	0
Tamaqua	0	18	0	0	0
Uniontown	1	0	1	0	0
Warren	0	15	3	0	0
Washington	0	100	3	0	1
West Chester	13	20	3	0	2
Wilkes-Barre	16	96	6	0	7
Wilkinsburg	0	12	5	0	2
Williamsport	1	1	3	0	36
York	0	69	8	0	3
Total Urban	478	8,876	962	20	737
Total Rural	205	3,878	826	49	496
Total State	683	12,754	1,788	69	1,233

MEDICOLEGAL AND LEGISLATIVE NOTES

Have You Sent in Your Voters' Educational Petitions?

Tale of a Nonpetitioner.—The other day we handed a registered pharmacist a petition with a request for his signature. He looked it over and returned it unsigned with the remark, "We don't like to sign such things. We are criticized for everything we do. And besides, I think a bona-fide chiropractor is strictly O. K." "You! A druggist?" quoth we. "Yes, I have went to them myself," he returned with earnestness and precision. Every man to his own taste!

Advice to Medical Witnesses.—In the *New York State Journal of Medicine* the following advice to medical witnesses, given by Paul Stryker, is worthy of attention: (1) Tell the truth. (2) There is no magic about testifying. (3) Be courteous. (4) Do not be afraid. (5) Do not seek to impress the judge, the jury, or the adverse counsel with the possession of superior wisdom. (6) Be attentive to the questions. (7) Do not volunteer. (8) Do not attempt to be an advocate; leave the advocacy to your counsel. (9) Do not lose your temper. (10) Be natural. (11) Keep your voice up. (12) Be frank. (13) Remember that there is no mystery about the administration of justice. (14) Do not be afraid because your case may involve technical or scientific facts that they cannot understand.

Will the Jail Be Overcrowded?—According to a recent statement in the *Observer,* Norway, a law has recently been passed there threatening all doctors who do not write prescriptions in a legible manner, nor sign their name plainly, with a maximum penalty of three months' imprisonment.

Crime Commission Hits Insanity Pleas.—Citing the acquittal of George Remus in Cincinnati as an example of the inadequacy of the jury-trial system, the National Crime Commission on June 3d, in New York City, inaugurated a campaign to place in the hands of qualified experts cases involving questions of the defendant's sanity, according to the Associated Press. The Remus Case, the Commission declared in a report of its subcommittee on the medical aspects of crime, was an instance of the "utter absurdity of entrusting the difficult determination of mental responsibility of an accused person for his acts to twelve laymen, admittedly unable to pass on the question from their own knowledge or training." The report, compiled under the direction of Dr. Frankwood Williams, in the absence of Ethel Roosevelt Derby, chairman of the medical subcommittee, is based upon a nation-wide investigation extending over a year, the commission announced. It commends the steps taken by Colorado and Massachusetts to remove questions of sanity from juries and place them in the hands of qualified experts, and expresses the hope that "the interest and indignation aroused" by the results of the Remus trial will lead other States to follow their example. The Massachusetts plan, says the report, has been particularly effective in "stopping the discredited practice of mental experts taking employment on either side of a capital case for large fees." A survey prepared by the medical subcommittee disclosed that more than a hundred courts in thirty-one States now employ psychiatric services. The committee reached the belief that questions of sanity should be disposed of before trial and not be allowed to arise as the principal point at issue before a

jury. Newton D. Baker, chairman of the National Crime Commission, in an explanatory statement accompanying the report says: "It is the general belief that the plea of insanity is brought forward for the defendant as a way of escaping from the just sentence, more often than it is advanced in good faith as the correct explanation for the acts of the accused."

Twelve months of the Basic Science Law in Minnesota.—The Basic Science Law has been in operation in Minnesota twelve months. During this period no chiropractor has appeared before the Board for examination. Since the enactment of this law the number of chiropractic schools in the State has been reduced from three to one. Four osteopaths have taken the Basic Science Board examinations, and three have been granted certificates. Board certificates on the basis of previous licensure have so far been issued to 3,231 physicians, 189 osteopaths, and 493 chiropractors. A total of 253 have obtained certificates by examination. —*Minnesota Medicine,* May, 1928.

Compulsory Automobile Security.—As yet data of the first year's experience in Massachusetts under compulsory automobile insurance (calendar year 1927) are very incomplete. Two items, however, may be noted. A comparison of accident reports for the first 11 months of 1927 (the figures for December, 1927, being yet unavailable) with such reports for the first 11 months of 1926, gives the following results: Despite a reduction in the number of motor vehicles registered, fatalities reported increased from 628, in 1926, to 640, in 1927; injuries reported increased from 23,154 in 1926, to 29,971 in 1927; and collisions reported increased from 24,926 in 1926, to 31,003 in 1927. In one county (Essex) the number of actions growing out of automobile accidents entered in the Superior Court increased from 193 in October, November and December, 1926, to 358 in the same months of 1927, and from 119 in January and February, 1927, to 278 in the same months of 1928.—*Pennsylvania Progress,* May, 1928.

Medicolegal Decisions from Many States.—Where there was no evidence that the nurses or other persons present and assisting at an operation for appendicitis were servants or employees of the operating surgeon, the Massachusetts Supreme Judicial Court holds, Guell v. Tenney, 159 N. E. 451, that he cannot be held responsible for their failure to keep an accurate account of the sponges inserted and removed, and cannot be charged with negligence if he did not, while performing the operation, also keep count of the sponges used. There was no evidence warranting a finding that, in the exercise of that degree of care and skill required of him, he could have discovered a sponge which was left in the patient's body before completing the operation; nor was there any evidence to show that his care and treatment of the patient thereafter were unskilled or improper. No inference of the defendant's negligence could be drawn from the fact that the sponge was not removed by him before the operation was completed, in the absence of evidence that he then in the exercise of reasonable skill could have discovered it. Its presence with the resulting harm to the plaintiff was quite as likely to have been due to the fault of others as to the surgeon's negligence.

The Louisiana Supreme Court holds, Roark v. Peters, 162 La. 111, 110 So. 106, that where the testimony conclusively shows that, in performing a cesarean operation, every possible precaution was taken to account for all sponges used in the operation before the wound was closed, that the operation was so properly and skillfully performed that the lives of both mother and child were saved, and there was no charge in the petition of any want of skill in the performance of the operation, an action for damages for pain, mental anguish, and expenses caused by leaving a tonal sponge in the wound would not lie.

The modern rule relative to opinion evidence is liberal, but the New York Appellate Division says, in McLaughlin v. Curtis Quillen Co., 227 N. Y. Supp. 712, that in doubtful cases, where the question to be determined in a personal injury action is what in all probability caused the plaintiff's present condition, there must be more than possibility of result, if weight and credit are to be given the opinion of a medical expert. While no special form of words is required in framing the question, the answer must disclose that in the mind of the witness there exists a reasonable certainty that given condition or result has occurred or will probably occur from the original injury, or ailment.

The Oregon Supreme Court, in Hively v. Higgs, 253 Pac. 363, an action for damages for removing the plaintiff's tonsils without authority, says: "It is very doubtful that plaintiff should ever be limited to nominal damages where he has been subjected to an operation without his consent. Such an operation constitutes technical assault and battery. Because the doctors have been unable to learn the precise functions of the tonsils is not sufficient reason for concluding that they have no functions."

Under the theory of nonliability of public charitable hospitals to their patients adopted by the Ohio Supreme Court, it declares itself unable to make any distinction between cases involving damages to the person of a patient and damages to his property, where caused by the wrongful act of an employee. In an action against such a hospital, it appeared that the plaintiff was severely injured by being struck by a street car and was taken to the hospital by a police officer in a taxicab, she having at the time valuable jewelry on her person; that the jewelry was deposited with the hospital and afterwards delivered by an employee of the hospital, without the plaintiff's authority or consent, to some person who represented himself to be plaintiff's son-in-law, but who was, in fact, an impostor and an entire stranger to her. It was held, Rudy v. Lakeside Hospital, 115 Ohio Statute 539, 155 N. E. 126, that the hospital was not liable. The court said that: "If this were a case of contract purely, one not involving wrongful conduct on the part of the institution's employee, liability might attach. But this case presents a different aspect, and is based upon an unauthorized and negligent delivery to an impostor."

In a malpractice action in the New Jersey courts, the plaintiff may be required to answer, in a bill of particulars, whom he was compelled to employ for medical and surgical care subsequent to the services rendered by the defendant, and how much was paid therefor, as against the contention that the defendant is attempting to find out the names of the plaintiff's witnesses. Hopper v. Gillett, New Jersey Supreme Court, 140 Atl. 17. —*Medical Journal and Record.*

Physical-Education Law in Iowa.—A committee of the Iowa State Teachers Association for the Study of Health Problems has recently published its report. It states that "The experience of Iowa seems to show that a physical-education law justifies itself by bringing results in increased attention to health teaching and better preparation of teachers in health. A comparison of the situation in Iowa with that of a neighboring State, in many ways comparable but without a physical-

education law, indicates that progress is more rapid when there is legal sanction behind health teaching." However, "while legislation helps to direct attention to health education and to stimulate the training of teachers for this purpose, it cannot be counted upon as completely meeting the situation, but must be backed by the solid support of the educators of the State."

The committee found many of the 210 teacher-training institutions of the State wanting in the character and amount of work given in physical education and in health teaching; but in the State College at Ames, "not only do all the students on entering have a complete medical examination and a course in hygiene of college rank, but an advanced course in hygiene and sanitation is required before they complete the four-year course for graduation. Furthermore, no candidate for the master's degree in any department in the college is allowed to obtain it without having had this advanced course in hygiene."—*Physical Education and School Hygiene Circular No. 12.* United States Department of the Interior. Bureau of Education.

Excess of Medical Charges.—The Workmen's Compensation Board has decided that when the prevailing charge for the hospital service rendered to an employee for the first thirty days after injury is $137.75, the agreement covering compensation should include said item in full, and that it is an error under such circumstances to limit the amount to $100. The decision was rendered in the case of John Lewis Denne v. Plymouth Coal Mining Company. At the hearing before the Referee, the claimant produced a bill from the hospital for this amount which the superintendent swore was the prevailing charge made to all persons. In spite of this proof, the Referee awarded the claimant only $100 based on a decision of former chairman Walnut of the Board. After a hearing *de novo* the present Board issued an order setting aside the first one and ordering payment of the entire $137.75—*Pennsylvania Progress.*

Statutes Requiring Certificates for Chiropractors Held Valid.—By Alabama Code 1923, § 2837, chiropractors are required by law to have a certificate of qualification to treat diseases of human beings. "Chiropractic" is specially named as one of the schools of "mechanotherapy" in whose favor all educational qualifications are waived except a diploma showing graduation from such school. The subjects upon which the applicants are examined are limited. The certificate entitles the holder to treat in accordance with the teachings of his "school" or "sect." (Code § 2839). No objection can be made to the statute because the chiropractor's certificate is limited to treatment in accordance with his school. His examination is also limited, and the limitation of his certificate as prescribed by the statute is in accord with his methods of treatment.

The statute is not, it is held, discriminatory in requiring examination on some subjects not needed in the practice of this particular school. The court quoted from State v. Marble, 72 Ohio St. 21, as follows: "To admit that a practitioner may determine what treatment he will give for the cure of disease, and that the state may examine him only respecting such treatment, would be to defeat the purpose of the statute and to make effective legislation of this character impossible."

Argument to the effect that the medical board of examination was not sufficiently skilled and experienced to pass upon the proficiency of a chiropractor's line of work, and that the members of the board were prejudiced against it, so that a certificate could not be obtained, was held to be addressed to a wholly anticipated unfair administration of the law, in no manner affecting the validity of the law itself. Frutiger v. State, Alabama Supreme Court, 111 So. 37.

It is not essential, under the Louisiana Act No. 54 of 1918, § 9, to constitute the practice of medicine, that drugs or surgical instruments be used. It may consist in the application of physical force to parts of the body for the purpose of curing disease or relieving bodily ailments, as in chiropractic which is defined as a system of adjusting the subluxated or slightly displaced vertebræ of the spinal column, by hand, for the restoration of health.

The statute requires a chiropractor first to obtain a certificate after examination. In proceedings for its violation, it was contended that it was unconstitutional in requiring applicants to stand an examination in surgery and materia medica, for which they had no need in their practice.

It was held, Louisiana State Board of Medical Examiners v. Fife, 162 La. 681, 111 So. 58, that no one has a natural or absolute right to practice medicine or surgery. It is a right granted on condition. And, although a state cannot prohibit the practice of medicine or surgery, and would hardly undertake to do so, it may, under its police power, regulate, within reasonable bounds, for the protection of the public health, the practice of either, by defining the qualifications which one must possess before being admitted to practice, and to make such regulations effective, to require one intending to engage in the practice to possess, before engaging therein, a certificate from the proper authority showing that he possesses the required qualifications. "The Legislature, however, in defining these requirements, cannot prescribe as a condition to the right to practice knowledge of a subject which bears no relation to the practice of medicine. But this does not mean that the Legislature, in exercising its power to prescribe the qualifications which, in its judgment, one should possess to practice medicine, must make requirements such as to provide for every school of medicine that may exist, by requiring of those belonging to each particular school a knowledge only of those subjects which the theory of healing, advocated and put in operation by each school, requires. Were it otherwise, the Legislature would be greatly hampered in the exercise of its power to protect the general health and the public from imposition and fraud. Every group of men who might get together and evolve some system designed to restore health would be entitled to recognition, and all that could be required of them would be evidence of good character and a knowledge of such subjects as their particular school seemed to require, although the Legislature might deem with reason a knowledge of such subjects wholly insufficient to entitle any one to treat the sick..... While materia medica and surgery are not used in the chiropractic system, still they, as well as the other subjects required by the act, as amended, bear a relation to the practice of medicine as a general science, and that, in view of the fact that the Legislature is not bound to recognize every school of medicine, and deal with it as such, is sufficient to prevent the act from being unconstitutional."

The contention that the act is unconstitutional because discriminating against chiropractors in favor of osteopaths, dentists, chiropodists, and trained nurses, who are not required to qualify in materia medica and surgery, was not sustained, in view of the fact that the Legislature is not called upon to recognize every school of medicine and to deal with it as such, but has a reasonable discretion as to whether a particular school should

be recognized and special provisions made for it.—*Medical Journal and Record.*

HOSPITAL ACTIVITIES

What Constitutes Modern Hospital Service?—The following are some of the outstanding problems that confront the hospitals today: First, fostering the proper relationship between the hospital and the public, and in this way helping to educate the public mind regarding the amount of erroneous and incorrect information that has been broadcast during the past year concerning what is termed the excessive cost of hospital service and their poor business methods. The second problem is that of giving proper medical service at less than cost to people of moderate means. The third important problem is the study of ways and means to balance the budget so that it will meet the increasing demands made upon the hospital by the physicians and the public.

Hospitals should recognize the excellent beginning that has been made in establishing May 12th as National Hospital Day. Proper observance of this day will be of immeasurable help in creating favorable impressions of the hospital. Many things take place in a hospital that the newspapers would like to print, and that can be printed without violation of the ethics of the medical profession. There are annual reports, visits of distinguished medical men, nurses' graduation exercises, donations, requests for blood donors, special gifts, or other aid. The medical profession, because of its code of ethics, has, in many instances, antagonized the press. There is no need for such a condition; the press and the medical profession should be on the most friendly terms. This is particularly true of the hospital and the press. The press, initially, seeks friendship with the hospital; it is to its advantage to do so. Too often, however, the proffered friendship is rudely rejected.

If the state is warranted in helping to build roads, is justified in helping education, is engaged in improving agricultural methods, then it is in duty bound to render every assistance to its deserving citizens to maintain and regain their health and to prevent illness and accidents, so that they may enjoy good roads, benefit by their education, and be able to carry on successfully in agriculture. To its citizens, the Commonwealth of Pennsylvania renders no greater service than the making of appropriations to hospitals, based upon service rendered. By so doing it permits the individual living in distant or less densely populated sections of Pennsylvania, if unable to pay, to receive treatment in the larger State-aided hospitals. Again, some of the poorer sections of Pennsylvania enjoy better hospital facilities than would be the case if they had to depend on local resources, which would be too meagre in many cases to provide for their needs. Rural hospital accommodations are not so pressing a problem in Pennsylvania as in some other states, due to the appropriation by the Legislature of the Commonwealth of Pennsylvania for this purpose.

The solicitation of bequests and endowments for hospitals in Pennsylvania is a fertile field and has not generally received the attention and consideration that it merits. A hospital stay today entails considerably more than three meals a day and a bed, medicine, and nursing. In addition, must be considered numerous other items of expense, such as the cost of delicate surgical instruments; the services of anesthetists; the cost of the anesthetic, ranging from five to ten dollars an hour; the various chemical examinations of the blood, which are time-consuming and require skilled workers for their execution; innumerable x-ray examinations; maintenance of social-service departments, pharmacies, dietary departments, ambulances, departments of physiotherapy and of radium therapy, special departments for study of basal metabolism, heart diseases, bronchial asthma, diabetes, and numerous other diseases.

How shall adequate service be provided for the middle class that will be satifactory to them? These suggestions are not new or original, nor will they fully solve the problem. First, new hospitals or changes in hospitals should be carefully planned by those who have had considerable experience, with the view of building a structure that will not be too costly to operate and maintain. Second, the hospital should not permit the services of a graduate nurse to be monopolized by one patient, but should provide group nursing. Third, the charge for medical attention and special tests, including laboratory and x-ray examinations, should be limited. Fourth, the hospital should solicit endowments, the income from which should be exclusively applied to keeping charges within the reach of persons of moderate means. Fifth, satisfactory types of insurance should be provided, or funds, such as Christmas-savings funds, should be established to defray expenses during illness and accident. The hospital should be the health center of the community, and should be the common ground on which the physician, the health agencies, and the public meet. Every effort along these lines should be encouraged by the administration of the hospital which has for its object the effective coöperation of other health and social agencies through the hospital.—*Modern Hospital,* May, 1928.

Five Reasons Why Butterworth Hospital Established Its Flat Rates.—A number of reasons entered into the determination of the management of Butterworth Hospital, Grand Rapids, Michigan, to establish flat rates for maternity cases: (1) It was found that among many patients their greatest worry in deciding whether or not to be hospitalized during confinement was the question of cost, and the lack of definite information tended to keep many from coming to the hospital. (2) As in every other community, the vast majority of citizens are of the working class, with limited means, and a flat rate was established in order not only to give them definite information as to cost, but to make that cost as low as possible and within their ability to pay. (3) In this city last year about 47 per cent of the babies were born in the hospitals, and it was conceivable that the majority of the other 53 per cent were people unable to pay hospital bills. It was felt that the hospital should be made available to them if possible, therefore the flat rates were established at a low figure, in order to make the hospital facilities available to a greater number of these people. (4) Free hospitalization and free medical service has a tendency to increase materially, year by year, as it becomes more and more generally known throughout the community that hospital and medical service is available without cost to the individual. It is our belief that some definite measure should be undertaken which would tend to educate the people away from such a thought and educate them to pay for the services they expect to receive from the hospital and from the attending physicians, and that if they are poor, while they must pay, the charges will be made within their ability to pay. Therefore the social problem was a factor in the determination to set low flat rates. (5) It is the feeling of the management of the hospital that so long as there are hospital beds available and people

need hospital care, every possible effort should be made to get those people in the hospitals. So the increase of hospital business was a factor.

In the past three years, maternity work in this hospital has increased over 100 per cent, and we are hoping to see the day when practically every maternity case is hospitalized for confinement. Surely, with the facilities which the hospitals have to offer, it ought to mean that there would be few abnormal births or babies injured at birth. In connection with this service, the hospital has made the very low x-ray charge of $5 for all pregnancies, so that the attending physician may have a definite knowledge of the position of the baby before delivery. These flat rates, $25 for the ward and semiprivate rooms, and $35 for the private rooms, would include, if required, complete x-ray of head, chest, gastro-intestinal study, gall bladder, kidneys, and would also include any laboratory work—sputum, Wassermann, blood chemistry, metabolism, etc. Of course, such a patient would be a rare exception. This hospital maintains in its laboratory a pathologist, a chemist, a bacteriologist, and three technicians, and in its x-ray department, a roentgenologist, a technician, and a nurse.—*Hospital Management.*

Hospital Lunch Counters.—In order to provide meals for visitors to hospitals, many institutions have arranged for a tray service, with a set charge for each of the three meals of the day. But there are other demands for serving refreshments that must be taken into consideration. This applies more particularly to the lunch hour. A refreshment counter would care for the wants of patients awaiting their turn in the dispensaries, and it would fill a long-felt want in providing a lunch for medical students and members of the staff, many of whom in a large center, waste much time journeying to and from the hospital for their meals. This scheme is universally followed throughout Europe. These lunch counters are installed and conducted by the social-service department. Only light lunches are provided, and the profits are turned over to the social-service work of the hospital. The latter is making the lunch counter popular with patients and staff alike.

Should the Record of a Patient be Shown to Insurance Representatives or Members and Friends of the Family?—There is not a hospital superintendent in the land who has not encountered this problem on many occasions. Often unethical insurance companies seek to avoid the payment of proper death claims by dispatching clerks to the hospital in an endeavor to secure clinical evidence that will substantiate this action. The superintendent is often able to sense the object of such visits. While the records of the patient are certainly the property of the hospital, the tactful superintendent will not always refuse information to well-meaning insurance companies when the interests of the patient or his family will not be endangered thereby. He is, however, perfectly justified in flatly refusing to produce records for the inspection of any one, and can be required to do so only upon proper court subpena.

A little different aspect is given to this question when real or reputed friends of a patient ask for information in regard to his or her condition. Sometimes the acquisition of facts to favor divorce action, or to affect unfavorably the character or community standing of a patient, is the object of such an inquiry. Sometimes a request for the result of Wassermann or other laboratory study is made. Not only should the superintendent refuse to divulge any such information, but he should so forcefully express his decision to the inquirer that he will leave no doubt as to his present or future action in such a matter. It is not a difficult task for a hospital superintendent to separate a bona-fide request for information from those that have an unhealthy or harmful background, for after all, the inquirer should go to the physician in charge if the individual is a patient in the hospital. It has long been established that whatever information the institution has in regard to its patients is the property of the hospital, and is a confidential communication between the hospital, physician, and patient.—*The Modern Hospital.*

Should the Superintendent Require that the Hospital Personnel Submit to a Physical Examination?—Preventive medicine in all lines of endeavor has advanced to such a stage that the hospital certainly should be in the van in carrying out its precepts. Physical examination of pupil nurses and the correction of any discovered faults, as well as their immunization against certain contagious and infectious diseases, have long been matters of routine procedure in most hospitals. The examination of all those who handle food is of the utmost expediency. The examination of those working with machinery, such as firemen, machinists, and engineers, seems wise because of the danger of compensation suits should injuries to these individuals occur while at work. Physical examination of orderlies and attendants, for the same reason, seems justified. Even hospital interns might be included, because of their exposure to infection, and because of the expense to the hospital of prolonged illness on the part of members of its resident staff. No general rule can be laid down for all hospitals, but it can be said that a periodic check-up on the physical status of all hospital employees would be a step toward increasing institutional efficiency. Certainly, as a minimum requirement, all those who handle food should undergo a physical examination upon beginning work, with the added performance of serologic studies. This should be repeated at three- or six-month intervals thereafter.—*The Modern Hospital.*

Should the Hospital Pay the Dues of Its Superintendent in Local or National Associations?—Attendance at hospital-association meetings results in a twofold benefit—to the superintendent himself and to the hospital whose affairs he administers. It is probable that often the latter reaps the greatest benefit. Most institutions feel that the expenditure of money to send its administrator to hospital-association meetings is a wise step. If this is true, to make such an attendance of the greatest benefit to the superintendent and his hospital, paying the executive's dues to the association is but a slight step forward. Even better than this would be the enrollment of the hospital as an institutional member and the appointment of its executive as the hospital's official representative. It is a short-sighted policy, indeed, to adopt any measure that prevents the attendance of the superintendent at national and local hospital-association meetings. The return the institution gains from such visits will far outbalance the expense necessary to bring this about.—*The Modern Hospital.*

A Contemptible Practice.—Universal respect is paid to the learned and ethical practitioner at law, and rightfully so. His profession, if practiced on a high moral level, may be the means of insuring that justice be done to all; that the weak do not suffer through oppression of the powerful; that the trickster be

brought to his just deserts. But there is no individual more deserving of contempt than the lawyer who lives by inciting others to take legal action when he knows no case exists or when he profits by the extortion of an unjust retaining fee. The "ambulance chaser" is a stench in the nostrils of all decent barristers. It is he who, either personally or by agent, appears as if by magic almost before the injured patient has been placed upon the examining table in the accident ward. His runner, while apparently possessing the face of a true friend, has in reality the body of a wolf covered with sheep's clothing. If permitted, he delivers a touching oration on the injustice done to the poor by great traction corporations or on the carelessness of motorists generally. The card of his corrupt employer then appears.

It is the hospital's duty to protect its patients against these shysters. Moreover, if a suit for damages is begun by a patient who has suffered an accident, and a verdict is secured, the lawyer always gets his fee, the patient gets what is left, and the hospital's bill remains unpaid. Even ambulance drivers, receiving-ward orderlies, and rarely, impecunious young interns have been approached and even corrupted by this despicable breed. Hospitals may eject the "ambulance chaser" when he is recognized, law associations may outlaw such unethical practitioners, but even then they will too generally carry on their nefarious work. The refusal by the administrator of permission to interview accident cases, when the request comes from those of questionable antecedents, and the prevention or the supervision of the signing of legal papers by such patients will curb this practice in a measure. "Chase the ambulance chaser" is a good slogan for all hospitals to adopt.—*The Modern Hospital.*

PHYSIOTHERAPY

Diathermy.—This is perhaps the best known procedure in electrotherapy today, not alone because physicians are interested, but also because patients have great faith in a remedy administered by the physician himself or his assistant in the office, and which brings about an immediate result that can be perceived by the patient.

To many men practicing medicine, the subject of electrotherapeutics is very awesome. They think it is necessary to know a lot of physics and to be practically an electric engineer in order to administer electricity to their patients. Luckily for the patient, high-frequency electricity administered in the form of diathermy is not so dangerous as it may seem, and the doctor frequently gets results which are gratifying to him and his patient, although his knowledge of electricity is less than meager.

In using diathermy, it is necessary to have an alternating current, because the mechanical basis of the apparatus is a transformer, which will not work on direct current. It is not extremely difficult to understand the fundamental principles of diathermy, and if they are understood, the applications of this modality are gratifying when prescribed and directed by a well-trained physician. It is capable of transforming electric energy into heat in any path placed between two electrodes, and, where it is felt that this heating up will be of benefit in treating the pathology presented, there is an indication for the use of diathermy.

Diathermy provides a means of forcing the body to send more blood to a part that is painful, and the greatest indication for its use is as a sedative for deep-seated pains. In passing an electric current through a deep-seated infection, however, great risk is run of breaking down the surrounding barriers the body has established, and the infection may thus be spread throughout the tissues. Such a condition is practically the only contraindication for diathermy. If the infection is subacute, and the battle between it and the resistance of the body is about even for a long period of time, a very slight amount of diathermy frequently will stimulate the resistance, and the infection can be overcome. In cases of cerebral hemorrhage, when it is desired to hasten the reparative processes of the body, diathermy is indicated as a measure to bring more blood to the brain. It is perfectly safe to pass as much as 1,000 milliamperes through the brain, provided that increase and decrease of the current is carefully watched. In treatment of cerebral hemorrhage, as in the treatment of most conditions by physical therapy, it is not sufficient to use diathermy alone.

In cases of sinusitis, provided drainage is established, diathermy is extremely useful. Many cases of laryngitis are given definite relief by an application through the larynx. In diseases of the chest, diathermy is of more than distinct advantage. Practically every condition of the lungs, except tuberculosis, where the tendency to hemorrhage might only be increased, will react favorably to diathermy. Bronchitis, either acute or chronic, is greatly helped, and statistics of 1,000 cases of pneumonia of all types treated with this modality show an average mortality of 14 per cent. Compare this with the avearge mortality of 40 per cent treated without diathermy.

Below the chest, diathermy has another field of usefulness. Crile, in the Cleveland Clinic, endorses the work of Portman, who for the past three years has been administering diathermy to the liver during operations where the abdominal contents had to be exposed. The reports show that these patients do not suffer from surgical shock. The reason ascribed is that heating the blood in the liver before allowing it to pass out to the rest of the system, helps the patient to stand the operation in such a way that shock does not occur. In untreated cases in which shock develops after the operation, a similar procedure has brought about phenomenal results, according to Portman. In subacute gall-bladder conditions, diathermy is of distinct help; in cases of interval appendicitis it is very easy to decide whether or not the patient is ready for operation, inasmuch as an appendix not seriously involved will stop causing trouble, whereas with severe appendicitis diathermy will increase the pain to such an extent that no time should be lost in getting the patient to the operating room.

Diathermy is frequently of great assistance in the pelvis, and subacute or chronic infections of the bladder, prostate, or fallopian tubes are distinctly helped. Pelvic exudates also respond to diathermy, and many conditions of the broad ligament that embarrass the gynecologist in his attempts to relieve the pain can be helped by this modality.

Regarding the extremities, the pain from all kinds of trauma can be relieved by the application of diathermy. Myositis, sprains, and strains are all helped through reaction of the physiologic hyperemia induced. Some conditions that occur in bones and joints are amenable to diathermy, but if the case exhibits an arthritis with exostoses, it is foolish to expect that diathermy will do more than alleviate the pain. The treatment of bursitis, even in the subdeltoid region, has been revolutionized since diathermy has been used. Acute subdeltoid bursitis responds immediately to diathermy, and, in cases that show calcification, all calcium deposits can

be removed with certainty when diathermy and static electricity are used.

Summary: (1) Diathermy is an electric current oscillating at a frequency of from one to three million times per second. (2) Diathermy is administered by means of electrodes placed on opposite sides of the part to be treated. Incidentally, care should be taken that the edges of the electrodes are no nearer each other than are the centers, because electricity will always take the shortest path and, if it can go from edge to edge, it will do so without going through the interposing tissues. (3) Diathermy causes a definite heating of the interelectrode tissues, varying with their resistance. Consequently, bone will heat to a greater degree than will muscle. This fact should be kept in mind. (4) Diathermy is indicated wherever induction of a phsyiologic hyperemia will bring about a reaction that may be expected to increase the resistance or enhance the physiologic function of a part. (5) Diathermy is in no sense a cure-all; it will not stand on its own feet as a single treatment for any condition, and it gets its best results when applied with medical common sense.—*Journal of the Medical Society of New Jersey,* May, 1928.

INDUSTRIAL MEDICINE

What of the Worn-Out Worker?—Industry is taking an entirely new view of the veteran employee. It is learning that it cannot scrap the aged worker who has had a long period of faithful service as it does the obsolescent machine. The cost of old age is taking an increasing weight among the financial burdens of American business. The annual pension outlay for the support of superannuated workers has never been computed, but it is estimated in a recent report of an official state commission at somewhat more than $40,000,000. Expenses of manufacture are being measured in decimals of a cent, while millions are being distributed to retired employees.

The observer is tempted to ask whether industry has gone into the business of dispensing charity. The question is a fair one. The answer is that industrial managers are paying pensions mainly for the same reason that dictates the adoption of new machinery and improved manufacturing methods: to reduce costs, raise efficiency, and add to profits. Industry, big and conspicuous industry at any rate, has given up the notion (if it ever had it) that aged workers with long periods of service are to be "scrapped" and left for the support of their relatives or of public charity. In our modern machine industry there is a constantly decreasing number of jobs at which aged men can work to the advantage of their employers, while at the same time the number of laborers who attain old age is constantly growing. Increasingly, as the years pass, employers are accepting an obligation, enforced both by their own conscience and by public opinion, for the maintenance of the workers who have grown old in their service.

But while the veteran workers are being cared for, the number of aged persons, both absolutely and in terms of their proportion to the whole population, is showing a gradual increase. Retention of a man on the active pay roll beyond the time when his services are profitable not only wastes a part of the compensation which he receives, but prevents the promotion of his younger and more active subordinates, and thus lowers efficiency, stifles ambition, and drives men of ability out of the service of the company.

There is no cheap and easy method of supporting that proportion of the population which on account of the infirmities of age is unable to support itself. For a part of this burden industry has a responsibility which it has no present prospect of evading. That the payment of pensions is far from being the most expensive method of meeting that responsibility is the consensus of advanced industrial opinion. The sooner the magnitude of the task is realized and work on it gotten under way the better for all concerned.—*Nation's Business,* June, 1928.

Safety Education.—Of all agencies that may be employed for elimination of industrial accidents, the plant safety organization stands out preëminently. Industrial safety is the first concern of the Bureau of Inspection of the Department of Labor and Industry of Pennsylvania. Ninety per cent of its work is directed toward the advancement of safety. It is of great concern in which educated persons, sitting down to consider the advancement of safety, reveal such gross ignorance of elementary safe practices. Some accidents are not preventable by mechanical safeguards, nor can any set rules or regulations be made to ward them off. Their avoidance depends on the development of a definite safety sense in the individual. The development of that sense is the big accident-prevention problem in industry. The mechanical safeguard fails to accomplish even what reasonably may be expected of it unless the worker is taught how to use it, and why he should use it. Plant safety regulations prevent accidents only when the workers have been taught the necessity for such regulation. No method of imparting safety education to workers in industry has been found to be as effective as the individual plant-safety-committee method.

Special attention is called to a bulletin on *Safety Organizations and Accident Statistics,* published last year by the Department of Labor and Industry of Pennsylvania. It outlined several plans of safety organization for plants of various sizes. This bulletin is a composite of ideas successfully carried out by leading safety engineers of Pennsylvania. It should be quite helpful to employers and plant safety directors, and may be obtained by applying to any inspector of the Pennsylvania Department of Labor and Industry, or by writing to the central office at Harrisburg. In the last analysis, of course, the success or failure of the safety organization depends on the individual worker. It is vital that each worker be made to feel that he or she is a unit in the organization, and that failure of any individual to do his or her part endangers the success of the whole. The safety organizations which accomplish most are those in which this spirit is fostered.

The report of the Bureau of Workmen's Compensation of the Pennsylvania Department of Labor and Industry for the first ten months of 1927 shows 1,722 fatal and 133,984 nonfatal accidents in Pennsylvania in that period. We take what consolation we may from the fact that this total is 10 less in fatal and 14,752 less in nonfatal than for the corresponding period of 1926. But there certainly is no indication here that our work for accident reduction may be permitted to lag. Compensation awards for the accidents of the first ten months in 1927 amount to $11,131,977, but compensation payments represent only a comparatively small proportion of the total economic cost of industrial accidents. There must be added the immediate loss of wages and of future earning power of injured workers, and the loss to the employer through labor turnover. These are losses that, were it possible to put them into figures, would be fairly staggering.—*Labor and Industry.*

THE MEDICAL SOCIETY

OF THE STATE

OF PENNSYLVANIA

Officers' Department

A. C. MORGAN, M.D., Sc.D., F.A.C.P.
President
2018 Chestnut Street
Philadelphia, Pa.

THE PLUMBER AND THE CULTIST

"That Which is Morally Wrong Can Never be Politically Right."

"Your health demands a system of sanitation in your home which gives complete, never-failing protection. It demands that the men who design, install, and repair your plumbing and heating systems be practical experts, with a thorough knowledge of the principles of sanitation and health.

"Your city knows this. It provides by law that no unskilled hands may tamper with the network of pipes which play such an important part in keeping you well. It insists that the sanitary system of the home be touched only by a licensed Master Plumber and the heating system only by a Heating Contractor. It licenses these men only after a searching practical and theoretical examination. It demands that they have at least four years of practical experience before they hang out their shingle. It insists that they comply with the sanitary requirements of the city in every job they do."

The above quotation is from a circular of information that is issued by the Master Plumbers' Association of Pennsylvania, whose organization represents approximately 1,250 persons who are legally licensed by this Commonwealth to carry on their trade, after having complied with the laws of the State in respect to preliminary education and four years of practical training under skilled workmen. There is no argument permitted when any one is found who claims to be a master plumber. If the man makes claims that cannot be substantiated, proceedings are instituted, conviction secured, and the penalty is inflicted.

Contrast this with the supine attitude of the State officials who are supposed to see that the laws relating to the protection of the lives and health of our citizens are carried out and obeyed. Also contrast the insistence upon a four-years' actual training to become a master plumber and then compare the preparation of chiropractors, naturopaths, and other cultists who assume to have a complete knowledge of the human body and its functions, together with its diseases, following a maximum of eighteen months' residence at any of their so-called colleges, to say nothing of the fly-by-night and correspondence courses that still infest this Commonwealth.

This is a glaring example of the effect of nonenforcement of a law that is sufficient in itself, as shown by many decisions handed down by the Superior and Supreme Courts.

Herein lies the explanation of how the irregular practitioners of the healing art in Pennsylvania have been permitted to gain such headway and to swarm here in large numbers from surrounding states where the officers of the law are alive to their sworn duty.

New York is enforcing the Loomis Law; Ohio spoke in no uncertain tones by the overwhelming defeat of the referendum on the chiropractic question in November, 1927; New Jersey is enforcing the law, and these three states are securing convictions for violations of the laws relating to the healing art, while Pennsylvania would almost seem to merit the term of opprobrium that was hurled against Philadelphia two decades ago.

How long will this nonenforcement of law continue?

Why is the law not enforced?

The lethargy of the people in general and of the legalized practitioners of the healing art can explain it in part. The lack of appreciation of their obligation to perform police duty on the part of those officers who are sworn to discharge their duty in full constitutes the chief reason.

An awakened public will soon force such ac-

tion as belongs to a self-respecting commonwealth that should seek to conserve the health and lives of its citizens.

THE QUESTION OF DUES

That the matter of proposed increase in per-capita assessment shall not become clouded, we feel that a chronologic statement should be presented at this time for the information and guidance of the membership of the State Society.

The following resolution was introduced in the House of Delegates at Pittsburgh on October 3, 1927, by the Philadelphia delegation (Atlantic Medical Journal, November, 1927, page 88):

Whereas, The State Medical Society meeting has become an annual event; and

Whereas, the financial obligation of entertaining the Society at its meeting imposes a great burden on the county society acting as host; therefore be it

Resolved, that it is the wish of the House of Delegates that the State Society appropriate a sum, not more than $1,500, to help defray the expense of these annual entertainments.

(Signed) Seth A. Brumm,
George A. Knowles,
Frederick Baldi.

This was referred to the Committee on New Business, which reported as follows:

"The resolution on the expenses of conducting the annual State Medical Meeting is reported affirmatively, and we recommend its adoption."

On page 92, a full report of the general discussion is recorded. Dr. Seth A. Brumm, of Philadelphia, stated: "It is true that we pay the smallest dues of any state society, but do not let us make it a dollar here and a dollar there, but make it something worth while." Dr. J. M. Quigley, of Clearfield, offered an amendment that "the Board of Trustees be authorized to make an assessment of one dollar or more per capita to meet the expenses of the annual session." This amendment was carried and the resolution as amended prevailed. The resolution was then forwarded to the Board of Trustees in accordance with the rules pertaining to matters of finance.

The following is an excerpt from the minutes of the meeting of the Board of Trustees held on December 6, 1927, an account of which appeared on page 264 of the Atlantic Medical Journal for January, 1928:

After considerable discussion based upon the suggestions advanced in the secretary's report, it was decided that the increase in the annual per-capita assessment to the State Society should be $2.50, beginning with the payment of the 1929 county society dues. It was the consensus of opinion that officers and councilors should, in their contacts with component county societies, vigorously discuss the reasons for the increases and the advantages to be derived therefrom principally as follows:

1. Assumption by the State Society of additional expense for entertainment and scientific exhibit at annual sessions.
2. Development of a State-wide lay-educational service.
3. Increased allotments from each member's dues to Funds—Benevolence, Defense, and Endowment.
4. Annual conference at Harrisburg of county society secretaries and editors.

Now is the time for full and free discussion of this important subject, as it will come up for final action in the House of Delegates at the Allentown session. Action by any one county is not binding on the membership at large, but simply represents the opinions entertained by that group.

We hope that all councilors will present the subject for discussion at their respective district meetings.

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade Building
Pittsburgh, Pa.

CALL TO MEETING

The first meeting of the 1928 House of Delegates of the Medical Society of the State of Pennsylvania will be called to order in the Masonic Temple (Consistory, first floor), Allentown, on Monday, October 1, 1928, at 3 p.m.

PROPOSED AMENDMENT TO CONSTITUTION

An amendment to Article V of the Constitution has been proposed by Drs. William L. Estes and Francis J. Dever, Bethlehem, and will be presented for action to the 1928 House of Delegates. Article V will then read as follows (the words in italics have been added as the proposed amendment):

The House of Delegates shall be the legislative body of this Society, and shall be composed of: (1) Delegates, or accredited alternates . . . ; (2) the presidents of the component county medical societies or, in the absence of the president, the secretary . . . ; (3) the President of this Society; and (4) ex-officio the Trustees, Secretary, Treasurer, and ex-presidents of this Society, but without the right to vote.

No individual, occupying an ex-officio membership in the House of Delegates, shall be seated as a delegate with vote, *except that when an ex-*

president who is not at the time a Trustee or other officer shall be duly elected a regular delegate by his county medical society to represent it in the House of Delegates, he shall be received as an accredited member of the House of Delegates, and shall have all the privileges of an accredited member during the meeting for which he was elected.

MEDICAL BENEVOLENCE FUND

We gratefully acknowledge the following contributions to our Medical Benevolence Fund:

Woman's Auxiliary to Philadelphia County Medical Society	$100
Woman's Auxiliary to Chester County Medical Society	50
Dr. Frank G. Hartman, Lancaster	25
Woman's Auxiliary to Lancaster County Medical Society (additional)	19
Woman's Auxiliary to Bucks County Medical Society	10
Woman's Auxiliary to Allegheny County Medical Society (additional)	9
	$213

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to June 16:

Allegheny: *New Members*—Simon Berenfeld, 2306 Center Ave.; Ira M. Bryant, 3400 Forbes St.; Catherine M. Clarke, 410 Broad St., Sewickley; Verner S. Gaggin, 5445 Center Ave.; Michael J. Maury, 1105½ S. Braddock Ave., Swissvale; Louis I. Schulman, 1801 Center Ave., Pittsburgh. *Resignation*—William H. Cameron, New York City; S. L. Grekin, Detroit, Mich. *Removal*—Joseph A. McCready from Sulphur Springs to Box 318, Greenwich, Ohio; Alexander M. Stevenson from Pittsburgh to 6622 Ventnor Ave., Atlantic City, N. J. *Death*—Amos M. Pierce, West Elizabeth (Jeff. Med. Coll. '76), May 8, aged 78.

Armstrong: *Removal*—James A. Kelly from Whitesburg to R. D. 1, Kittanning.

Bedford: *Resignation*—Wilmot Ayres, Los Angeles, Calif.

Blair: *New Members*—Oliver F. Andrew, Hollidaysburg; Merrill H. Long, 1009 Chestnut St., Altoona; Edwin B. Murchison, 1351 Logan Ave., Tyrone.

Bucks: *Transfer* — Howard A. Lichtenwalner, Perkasie, formerly of Schuylkill Haven, from Schuylkill County Medical Society.

Butler: *Removal*—Alfonso M. Padilla from Butler to 608 Belmont Ave., Youngstown, Ohio.

Clarion: *New Member*—Paul R. Lecklitner, Rimersburg.

Dauphin: *New Members*—Robert M. Hursh, 2304 N. 6th St.; Thomas D. Mills, 914 N. 2d St.; Robert Denison, 131 State St.; Guy E. Ohlson, 1310 Market St.; Charles H. Crampton, 600 Forster St., Harrisburg.

Delaware: *New Members*—Thomas E. Murray, 726 Highland Ave.; William E. Smith, 400 Flower St., Chester.

Erie: *Removal*—Anna M. Schrade from El Cajon, Calif., to 10825 Bryant Ave., Cleveland, Ohio.

Fayette: *New Members*—Fred H. Harrison, 1st National Bank Bldg., Connellsville; Blaine B. Barton, Markleysburg; Albert N. Robinson, La Belle; Samuel E. Edmunds, Box 58, Mount Braddock.

Franklin: *New Member*—Elmer A. Hudson, Lemasters.

Lackawanna: *Death*—John J. Carroll, Scranton (Coll. Phys. and Surg., Balt. '83), August 7, 1927, aged 70.

Mifflin: *Death*—James W. Mitchell, Lewistown (Medico-Chi. Coll., Phila. '98), April 30, aged 58.

Montgomery: *New Member*—Cecil W. Hancox, Pottstown.

Northampton: *New Member*—Eli S. Mantz, Bethlehem.

Philadelphia: *New Members*—Arthur C. Hehn, 6320 N. 12th St.; Louis Goldstein, 5937 Cedar Ave.; Clyde M. Spangler, 5614 Spruce St.; James S. Shipman, 4111 Walnut St.; Marie Severac, 336 E. Tulpehocken St., Gtn., Philadelphia. *Reinstated Member*—Arthur P. Keegan, 1729 Pine St., Philadelphia. *Resignation*—Thomas W. Tait, Philadelphia. *Deaths*—Charles D. Carr, Philadelphia (Jeff. Med. Coll. '88), January 31, aged 64; Lewis S. Somers, Philadelphia (Univ. of Penna. '92), May 13, aged 57.

Schuylkill: *New Members*—Sterling F. Mengel, Schuylkill Haven; Anthony P. Murray, Girardville.

Somerset: *New Member*—Earl Glotfelty, Jennerstown.

Tioga: *Removal*—J. William White from Blossburg to Scranton (Lacka. Co.).

Wyoming: *Death*—George M. Kinner, North Mehoopany (Univ. of Penna. '95), May 13, aged 58.

Westmoreland: *New Members*—Max W. Heatter, Monessen; William J. Latimore, Herminie. *Removal*—William W. Briant from Crabtree to Box 62, Smithton.

York: *New Members*—Norman H. Gemmill, Main St., Stewartstown; George H. Jordy, 201 Frederick St., Hanover; William C. Langston, 477 W. Market St., York; William C. Seitz, Glen Rock. *Death*—Theodore H. Wertz, Hanover (Coll. Phys. and Surg., Balt. '04), June 2, aged 53.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since May 14. Figures in first column indicate county society numbers; second column, State Society numbers.

May 17	Franklin	56	7453	$5.00
	Somerset	45-46	7454-7455	10.00
18	Lebanon	32	7456	5.00
	McKean	38	7457	5.00
	York	134-137	7458-7461	20.00
21	Northampton	129-130	7462-7463	10.00
	Westmoreland	160-173	7464-7477	70.00
22	Dauphin	165-166	7478-7479	10.00
	Venango	51-53	7480-7482	15.00
28	Somerset	45	7483	5.00
29	Delaware	111	7484	5.00
31	Clarion	25	7485	5.00
	Beaver	88	7486	5.00
	Lawrence	62	7487	5.00
June 7	Allegheny	1254-1275	7488-7509	110.00
	Schuylkill	159-160	7510-7511	10.00
11	Dauphin	167-170	7512-7515	20.00
	Fayette	115-119	7516-7520	25.00
	Crawford	40-42	7521-7523	15.00
12	Montgomery	166	7524	5.00
	Philadelphia	1968-2001	7525-7558	170.00
13	Venango	54	7559	5.00
	Blair	95-104	7560-7569	50.00

COMMITTEE ON PUBLIC HEALTH LEGISLATION

PAUL R. CORRELL, M.D., *Chairman*
Easton, Pa.

A CHALLENGE

For many decades the medical profession of our land has been compelled to act as the sole custodian and protector of public health. Under this guardianship, invested in the medical profession and accepted by it, a progressive and active campaign has been carried on against disease. The scientific aspect, namely, the cause of disease and its general phenomena as well as its mode of invasion, has been carefully and thoroughly studied from every viewpoint by pioneers in research, and in many instances lives have been sacrificed in order that humanity might be benefited.

Organized medicine of today represents the sterling worth resulting from experience and knowledge gained in years gone by in the sincere and ardent effort to learn more about disease and its eradication. The value of the heritage of the licensed healer of the present day is shown by the steady advance in understanding of the phenomena of disease and health, well illustrated by the ability to prevent or control the terrible death-dealing epidemics of former years, and to make the world a better, happier, and safer place in which to live.

With the appreciation of this knowledge has come the gradual progressive elevation of requirements for license to practice the healing art. Pennsylvania, in raising its standards, has kept well abreast of the ever-increasing knowledge and wisdom available. The laws regulating licensure have been just and fair in their requirements in the past as in the present. Lawmakers formerly worked in the closest harmony with the development of medical principles and doctrines in order that our Commonwealth might maintain her proper status by adequate supervision of those who were responsible for the health of her people.

However, this coördination between the legislative and conservative medical minds which heretofore have collaborated in producing laws conducive to public safety is now in danger of destruction because a new viewpoint has developed among law-makers which must be considered. The present well-balanced laws, the result of the mutual respect which formerly existed between medical interests and legislators, are now to be placed in the discard at the behest of a certain small, untried group of so-called drugless healers. The past fifty years of gradual progress has had as its one objective, public betterment. This is now to be sacrificed on the altar of political expediency instead of being the criterion by which all legislation is judged. In short, the scientific custodian of public health is to be side-tracked at this point, and a type of legislation is to be enacted which will result in a less efficient handling of public-health matters than we have had for many decades.

The cultists demand a franchise to practice their system of treatment, devoid in its entirety of any of the lore which the licensed healer now enjoys after years of scientific advancement.

The licensed healers of the present day demand that the lawmakers of our Commonwealth realize the responsibility of granting a franchise to healers of a substandard character. We firmly believe that there can be no short-cut, no back door, into the realm of surgical and medical knowledge achieved only after centuries of study and research. We do not controvert nor attack any means of treatment as a method for the alleviation or eradication of disease in the human. We are not concerned as to the character or desirability of the treatment which a small percentage of the people may feel that they want. We are not attempting to limit the healer of today to a restricted armamentarium in the practice of his art.

However, present-day organizations, representing licensed healers and all allied agencies, insist that the legislators be cognizant of the danger when exponents of any healing system or cult lacking the fundamental medical knowledge built up by past generations demand full rights and privileges under the law. The bold claims of the cultists and the wild pretensions of each that its own system is a panacea for all ills, when its only background is a few years of so-called manipulative treatment, do not justify the bestowal of public confidence or legalization. The absence of scientific knowledge on the part of cultists of today indicates a lack of real virtue in their varied systems as a means of betterment for society and arouses doubt as to their own integrity.

There is no comparison between the value of the present-day healer who abides by the mandates of the law and the conscientious endeavor of recognized teaching institutions of our land and that of the advocates of the various cults who propose for the treatment of the ills of society a limited method of practice without the fundamental and basic understanding of causative factors in disease.

In this day of progress, the Pennsylvania Legislature is to be asked to pass legislation which will legalize and license a group of practi-

tioners nearly all of whom are unable to meet the present licensing standards. Legislators are asked to discriminate, and to pass special legislation creating a multiple standard for persons who have as their purpose the lawful practice of medicine.

The term "practice of medicine" is here used in the legal sense approved by the highest courts of Pennsylvania by which the practice of cultism is construed as meaning the practice of medicine in the full sense of the word. Any treatment or any method by which the eradication of disease is attempted or which has as its objective the return of normal health is accepted as the practice of medicine under the meaning of the law.

The former method of coöperation between legislative bodies and the best medical minds is to be set aside, and legislation is asked for in the sole interest of a thousand unlicensed, self-ordained healers who desire a franchise to practice untrammeled by law. It must be realized, however, that the enactment of any law which does not have as its one purpose the good of society at large is unwise, unsafe, and founded on motives of questionable virtue. Licensing of the present-day cultists on a substandard basis will create for the public an inadequate and improperly trained body of healers.

Pennsylvania must not be reactionary in its legislation. Its legislators cannot accept laws which are unsound and radical in character. But one standard should obtain in law-making for all desiring like privileges. The present petitioning and demanding cults desire to practice medicine in the fullest sense of the word. They, therefore, should present themselves properly taught and prepared in the subject matter essential to the profession which they desire to practice. Any means which will force them, unprepared but licensed, upon the people will not only injure society at large but will destroy public confidence in those responsible for this deliverance.

It must be fully understood that the practice of medicine completely covers the entire field of treatment; that under the law now regulating licensure the methods of treatment practiced represent the progress of a century of scientific research and observation; and that up to the present time, the licensing of healers has been carried out according to a just standard. The cultists have not presented themselves before the licensing board because they knew that the requirements were too high for them to pass, with their limited knowledge of the fundamentals. Now this order of things is to be set aside, and the organized bodies of the State are asked to consider the licensing of a group of ill-prepared practitioners whose sole purpose is to procure franchise.

Since the cultist does not choose to comply with existing standards, the honesty of his purpose is questioned, for no good can come from licensing as a physician one who is unfitted, unworthy, and unwilling to subscribe to the present mandates. The Assembly of Pennsylvania owes no legislative recognition to this unlicensed thousand. Their present dilemma was foreknown by them when they embarked upon their very much abbreviated course of training. They were fully aware of the demands of the amended Law of 1911 relative to the present just standards in our State, and in spite of that they have seen fit to present themselves to society as practitioners of the healing art, while they systematically declined to go before State authorities for a proper appraisal of their worth. There is no justice, no equity, and no right which will legalize their many deeds of misdemeanor. If they desire franchise, if they desire privileges, should they not come in good faith and with clean hands and accept the laws now on the statute books?

In conclusion, all agencies representing the best interests of the public stand irrevocably opposed to any laws which will create a double standard of education for medical practice by those unfitted for the work. There cannot be any compromise of principle which will permit the breaking of good faith with the citizens of our Commonwealth and allow legislators to break down this restraining barrier, the amended Law of 1911, enacted in the interests of our people as a means of protection to them. There should be only one method and one standard by which individuals may be licensed as healers in our Commonwealth. Any departure from this logical position is a frank demonstration of a desire to serve the few who wish this privilege at the expense of the entire population. Let those who guide the destinies of this great economic and social profession realize that any step which will invalidate and destroy the present order of things will bring discredit to the agencies responsible for so doing. Public health and the laws regulating it are the government's most sacred responsibility. To barter with legislation of this character will be to tamper with the safety of the people and the homes of Pennsylvania.

Let us, therefore, maintain our poise and good judgment. Let us perpetuate our present fair standard, our agencies of public health, and our medical schools. Let us protect the individual doctor in his position, and encourage by even higher standards his determination to render the best possible service to human life and health, so

that society at large may enjoy the ever-improving ability of a progressive and honest profession, rich in scientific lore, and activated by motives of real worth and integrity.

COMMITTEE ON SCIENTIFIC WORK

O. H. PERRY PEPPER, M.D., *Chairman*
Philadelphia, Pa.

THE PROGRAM OF THE SECTION ON EYE, EAR, NOSE AND THROAT DISEASES

The program of this Section at the meeting to be held in Allentown from October 1st to 4th will be of unusual interest. It is so arranged that Wednesday afternoon will be devoted entirely to eye work. The first period will be given over to "Moving Pictures as an Aid in the Teaching of Ophthalmic Surgery." This subject was presented before the American Ophthalmological Society by the author, and was intensely interesting. The use of the slit lamp in industrial ophthalmology will be discussed in a paper on "Biomicroscopy in Industrial Ophthalmology; Medicolegal Aspects." Oculists are beginning to realize the importance of this method in industrial cases, and the study presented will help to solve many of the problems of this type of practice. It will be full of interest for the practicing ophthalmologist. During the last hour, the relation between ophthalmology and general medicine will be presented by an ophthalmologist of national reputation.

Tuesday afternoon and Thursday morning will be devoted to otolaryngological topics. "Chronic Ethmoiditis; its Treatment, Conservative and Surgical" will be discussed by an international authority. The important and interesting subject of the relationship of diseases of the upper and lower air passages will be thoroughly considered, and will be discussed by an internist, Dr. I. Hope Alexander, of Pittsburgh. A lipiodol study of the antrum, with particular emphasis on cysts, both antral and dentigerous, should be of unusual practical value, and will be presented by an authority who is eminently able to illuminate the subject.

On Thursday morning, the first paper will be read by Dr. John Edmund MacKenty, of New York, on "Diagnosis and Treatment of Laryngeal Malignancy." Dr. MacKenty's papers are always full of interest, and his wide experience in this field gives assurance that this will be a valuable contribution. "Herpes Zoster of the Cephalic Extremity" will occupy the middle hour of the morning, and should be of unusual interest, both to the ophthalmologist and the otolaryngologist, as the subject will be presented from a neurologic, ophthalmologic, and otolaryngologic standpoint. "Malignancy of the Tonsil" is timely, and will take up the anatomy, symptoms, diagnosis, and treatment.

This program should be varied enough to command the attention of every eye, ear, nose, and throat member of the State Society.

THE PROGRAM OF THE SECTION ON DERMATOLOGY

This Section will offer a practical program at its meeting on Wednesday afternoon, October 3, 1928, in the Hotel Traylor, Allentown. Many of the everyday problems will be discussed, and the most recent views which are practical will be considered, with their application to therapy.

Wednesday morning, in connection with the Scientific Exhibit in the Masonic Temple, a clinic on skin diseases will be held, and cases will be presented from the standpoint of differential diagnosis and treatment. The object will be to take up ordinary daily problems, as rare and interesting conditions are only of technical interest to meetings of a different order.

The afternoon program will be filled with practical subjects—eczema, hives, psoriasis, acne, epidermophytosis—with lantern slides, and from the standpoint of actual treatment. The subject of the guest speaker, Dr. William Allen Pusey, "Our Changing Knowledge of Eczema," is in keeping with the program, and needs no further comment, as Dr. Pusey is an eminent speaker on dermatologic subjects.

County Society Reports

BERKS—JUNE

The stated meeting was held in Medical Hall on Tuesday afternoon, June 12th, at 3.15. Dr. S. Banks Taylor, second vice-president, presided. The meeting was addressed by Dr. K. Winfield Ney, professor of neurosurgery at the New York Polyclinic Medical School. His subject was "Traumatic Lesions of the Nervous System and Increased Intracranial Pressure."

After a brief review of the gross anatomy of the brain, Dr. Ney discussed the mechanics of the spinal fluid, circulation, and obstruction to the normal flow through the ventricles. The conditions described were: acute and chronic increased intracranial pressure, middle meningeal hemorrhage, intradural hemorrhage, subacute elevation of pressure, hydrocephalus, neoplasms, epilepsy, and fractures.

Interesting points brought out were as follows: (1) A general anesthetic is contraindicated in head surgery because, even in abdominal operations, the intracranial pressure is increased from pressure on the jugular veins produced by increased intrathoracic pressure. Pressure on one jugular vein produces an intra-

cranial pressure of 16 mm., while pressure on both raises the tension to 24 mm. Local anesthesia does not raise the pressure; neither does oil-ether rectal anesthesia cause a rise. (2) Though the spinal fluid may register only 2 mm. Hg, the ventricular pressure may be as high as 30 mm. Hg. (3) Brain injuries may produce concussion, contusion, or compression, either separately or in combination. (4) In subacute elevation of pressure (18 to 28 mm. Hg) there is restlessness, sleeplessness, headache, inability to concentrate, tremors, vertigo, dizziness, retinal venous engorgement, exaggerated deep reflexes, and loss of superficial reflexes. (5) In acute elevation, the following symptoms appear:

	Irritative Stage	Paralytic Stage
Cortex	Restlessness, irritability	Delirium, coma
Pulse	Bounding, slow, very slow	Rapid, very rapid
Respiration	Deep, slow, very slow	Stertorous, Cheyne-Stokes
Blood pressure	Increased, elevated, high	Traube - Hering Waves
Temperature	Normal, slight rise, elevated	Hyperthermia

To reduce intracranial pressure, the following methods may be used: (1) Dehydration by the alimentary route with magnesium sulphate or by the intravenous route with sodium chlorid or glucose. Sodium chlorid produces a rise after several hours. From 50 to 100 c.c. of 25- or 50-per-cent glucose is preferred, given very slowly. (2) Spinal puncture. (3) Decompression.

In middle meningeal hemorrhage, the attendant should be instructed to take the pulse and blood pressure, and to arouse the patient every two hours or oftener. In acute cases, the patient should be made to squeeze with both hands. If one hand be found weak, and after an interval both hands, immediate operation is indicated. Hospitalization for twenty-four hours is indicated in all head-injury cases which present headache, vomiting, and loss of consciousness.

It is of interest to note that at the present time two of our legislators declare themselves opposed to the passage of a chiropractic bill. They attended the recent special meeting held in Berks County addressed by Drs. A. C. Morgan and Paul R. Correll.

Pearl E. Hackman, M.D., *Reporter.*

CAMBRIA—JUNE

At the meeting held June 7th, Dr. Bernard McCloskey presented a paper on "The Sedimentation Test" with a report of cases studied at the Mercy Hospital, Johnstown. Dr. McCloskey advocated the use of the Linzenmeier technic, in which the sedimentation time is the time required for the column of citrated blood to settle out the distance of 18 mm. in a specially marked glass test tube which measures 5 mm. in diameter and 6.5 cm. in length. Among the important rules for carrying out the test, the following were mentioned: (1) The tube must stand vertically. (2) Thorough mixing is necessary, or a variation of 10 per cent may result. (3) The blood must not clot. (4) The test should be done immediately after blood is drawn. (5) Tests made with different dilutions show that the speed of sedimentation was increased with increased dilution. The proportion of 1 to 4 has been generally accepted. The average rate at the Mercy Hospital was 498 minutes for the normal adult male, and 230 minutes for the normal adult female. Dr. McCloskey believes that any rate above 180 minutes could be safely regarded as normal.

The sedimentation test has found its greatest usefulness in the field of gynecology. Changes in settling time seem to be more sensitive to infection in the pelvis than to any other type of disease. There is no definite relationship between the variety of infectious process and the settling time. It is a surer guide in estimating the activity or quiescence of disease than the temperature or leukocyte count. The speaker quoted from Dr. Polak's recent observations in which he concluded that he constantly found localized collections of pus in the pelvis when the time was less than 30 minutes; and furthermore, that when the sedimentation time was below 90, the morbidity was increased, complications were more numerous, and convalescence more prolonged. He does not allow patients to be discharged from the hospital until their sedimentation time is at least 45 minutes.

Following this general discussion of the sedimentation test, the speaker presented a list of interesting cases which he had studied during the past six months at the Mercy Hospital, comparing the sedimentation time with the leukocyte count, and concluding with the remark that every physician should become thoroughly familiar with the sedimentation test because it has been greatly improved and will continue to improve, new applications will be found and the old ones will be better understood, and sooner or later the test will take its place with the leukocyte count and temperature reading as a routine measure in the study of disease.

In discussion, Dr. H. B. Anderson stated that he has been using the sedimentation test at the Memorial Hospital for the past four years, and so far has not been able to satisfy himself that it has any great diagnostic value. He does believe, however, that in the fields of gynecology and tuberculosis it can be used to advantage in determining the severity of the disease and the condition of the patient. There is unquestionably a direct relationship between the progress of the disease and the time of sedimentation of the erythrocytes. Sedimentation tests made at weekly or monthly intervals may prove of great value in determining the progress of a case. This application may likewise be valuable in estimating the progress of the disease process in carcinoma.

Dr. H. M. Stewart made a report on the three-day cancer meeting which he recently attended in Philadelphia. He stated that the lectures would be published in book form, and could be secured for the sum of ten dollars.

H. B. Anderson, M.D., *Reporter.*

ERIE—JUNE

Despite the inclemency of the weather, fifty members of the Society thoroughly enjoyed the outing on the White Swan Farm, the home of certified milk for Erie County, as the guests of the owner, Mr. George Taylor. Inspection of the farm and herd demonstrated the splendid grade of milk produced and distributed in this community under the strictest care and sanitation. After dinner, speeches were made by A. B. Boutall, of Jamestown, N. Y., L. H. Moulton and B. G. Cone, of the farm, and the owner, Mr. Taylor. Dr. B. Swain Putts, who presided, asked for better patronage for certified milk, and complimented the dairy on its neatness and wonderful herd of cattle. In the interest of certified milk, it is planned to have the Etherston and Gospel Hill dairies certified, giving to this section of the State three of the finest of farms, producing the best of milk.

This session replaced the regular monthly meeting of the Society, and in September the schedule will again be resumed with an attractive program. The next

meeting of the physicians will be on July 25th, when the annual golf tournament and dinner will be held at the Kahkwa Club. This is the banner event of the year, and all turn out whether they play golf or not.

The matter of a part-pay clinic in Erie is at present being voted upon. The questionnaire was submitted with the June issue of the *Stethoscope*.

NORBERT D. GANNON, M.D., *Reporter*.

PHILADELPHIA
May 9, 1928

A joint meeting with the Philadelphia Pediatric Society was held, with the president of the County Society, Dr. I. P. Strittmatter, in the chair.

CHILD HEALTH WEEK

Dr. Samuel McC. Hamill, State Chairman of the Pennsylvania Child Health Day Committee: Significance and Opportunity of Child Health Week.—Child Health Day was established five years ago by the American Child Health Association in order to interest the people of the United States in the important subject of child health. The organization was made by states, with the approach through the departments of health. In Pennsylvania each county is organized. An extraordinary amount of constructive work has been done, as evidenced by the fact that five years ago, exclusive of Pittsburgh and Philadelphia, there were fourteen clincis, while today there are over four hundred. All agencies in any way interested in child health have been urged to coöperate. The main difficulty in the work has been in the medical committee, for in many instances physicians volunteering their services have been called off by the profession, and it has strenuously opposed interference from lay groups. The future success of this work depends upon our ability to interest and gain the coöperation of the medical profession. It is planned that the chairmanship of the program next year shall be held by the State Department of Health.

Dr. Strittmatter announced a free course of study on the heart, to begin May 25th, by the Philadelphia Heart Association.

Dr. Arthur M. Dannenberg: Success With Simple Dilutions of Boiled Cow's Milk With the Addition of Carbohydrates in Infant Feeding.—The basic consideration in infant feeding is that certain requirement in food per pound needed for growth. The formula is as follows: cow's milk, 1½ to 2 ounces per pound of expected body weight; carbohydrate, 1/10 to ⅛ ounce per pound of the infant; and diluent (water) to make the amount of each feeding, in ounces, equal to the age in months plus two. The majority of infants brought to the pediatrician suffer from insufficient quantity.

In the preparation of the food, simplicity must be stressed, mixing the required quantity of milk and diluent, stirring, boiling three minutes, adding the sugar, straining, and putting in bottles. The speaker uses grade-A or certified milk, never unboiled, for though it is constipating, this is rather an advantage in the bottle-fed infant. Except karo, dextrimaltose is the best tolerated of the sugars and lactose is the least satisfactory, as it causes flatus and colic. Cereal jelly is used to increase the carbohydrate content and to correct constipation. The value of this method was demonstrated by numerous feeding-weight charts, 95 per cent of the babies doubling their birth weight in five months.

In cases with gastro-enterospasm, the hypertonic infant, the speaker gives a tablet of 1/1,000 gr. atropin before the feeding. The feeding of infants is always associated with definite problems. Vomiting occurs because of overfeeding, pylorospasm, pyloric obstruction, improper food, air swallowing, improper position in bed, too many clothes, too little care in changing diapers, tight binders, or excessive heat. Constipation is of two types: the soft, loose, but infrequent, stool caused by insufficient food or an exceptionally complete digestion, and the hard stool, relieved by change in carbohydrate, by the use of potassium carbonate, by cereal administration, fruit juices, or mineral oil.

In discussion, Dr. J. Claxton Gittings took exception to the statement that certified milk contains pathogenic germs. In regard to the administration of atropin, he recommends dissolving 1/100 gr. in water for the day's use rather than having tablets of 1/1,000 gr. made up. He thinks that milk boiled three minutes produces extreme constipation, and advises the use of lactic-acid milk to correct this.

Dr. Harry Lowenburg said that infants can be fed without dextrimaltose, and he follows the teaching of Abraham Jacoby in employing cane sugar. The medical profession has been exploited through advertising, for there are more acute intestinal upsets with dextrimaltose than with cane sugar. The gains of fifteen to twenty ounces in a few days shown on the charts presented are due to the fixation of water by the high carbohydrate percentages (8 to 12 per cent), and for maintenance of the gain, protein must be added. Enterospasm is often due to overfeeding, and the babies get well in spite of atropin. This drug should be used with discretion, as it may do harm. He believes that infants can be satisfactorily reared without cod-liver oil.

Dr. L. J. Rostow approved discarding of the percentage method of feeding. He also prefers to use cane sugar.

Dr. Dannenberg said that cane sugar is well tolerated with skimmed milk, but whole milk may be employed if dextrimaltose is used. If cane sugar is used in large amounts, some fat must be removed from the milk. When rickets occurs in babies fed cod-liver oil, they have not been given enough.

Dr. Edward B. Atlee: The Value of Vaccine in the Prevention of Whooping Cough. Report of an Institutional Outbreak.—The earliest published works on the use of pertussis vaccine as a therapeutic measure came out in 1913, and in 1915 favorable reports were given on its prophylactic value. In 1924, a report from New York City showed the incidence slightly less among vaccinated groups in institutions, and other favorable reports have appeared. At St. Joseph's Orphanage, Philadelphia, two children, admitted twelve days before, began to cough on October 11th. The cough was spasmodic, but nothing definite was found other than a leukocytosis up to 13,000 cells with more than 60 per cent lymphocytes. The children were sent home. On the 14th, forty-six children in the institution who had not had whooping cough were each given ½ c.c. of a pure culture of pertussis bacteria, with a second and third dose of 1 c.c. at three-day intervals. Five who started to cough were given three more injections of a 2-c.c. dose, and three more who began coughing were not given extra vaccine. There was little difference in the course of the cases receiving the additional vaccine. None of either group lost weight or developed complications, nor did the cough, in any, last more than five weeks. Drugs played little part, though antipyrin,

gr. ii, and sodium bromid, gr. v, were given t.i.d. for the whoop; ether in olive oil was used as a rectal injection at night; and 30 minims of syrup of ferric iodid was given three times a day until recovery. Of forty-six children exposed to the catarrhal stage of whooping cough, only eight developed the disease after the administration of vaccine, and in these the course was mild and uncomplicated, averaging five weeks. There is no inherited immunity to whooping cough; nearly all exposed (about 91 per cent developed it. In this group 17.5 per cent succumbed. It would seem valuable, therefore, for prophylaxis, for immunization of contacts, and for therapeusis.

In discussion, Dr. Ralph M. Tyson doubted if vaccines in whooping cough would ever receive the acclaim that they have in smallpox or diphtheria, but they have a definite prophylactic value in exposed cases. The early diagnosis of suspected cases is aided by the lymphocytic leukocytosis and by blood-chemistry studies, which show a definite disturbance in the acid-base equilibrium. While certain cases react well to the vaccine, others do not respond; nevertheless it has an important place in the prevention and treatment of whooping cough.

Dr. Frederic H. Leavitt: Brain Tumors in Children.—During the past twenty years there has been an increasing consciousness on the part of the medical profession that cerebral new growths are not rare, and the former belief that they are usually malignant and inoperable is yielding to the lessening death incidence in the clinics of such experts as Cushing and Frazier. Suboccipital decompression and deep x-ray therapy relieve the headache and blindness, in some, at least. This paper was based upon 350 case records of Drs. Spiller, Frazier, and Fay, of which 23 cases occurred in children. The ratio of tumors recognized in pre-adolescents to those in adults is only one to seven, but with careful observation, more will be detected. While in 1888 deaths from tuberculosis ranked highest, this disease has now dropped to fifth place, due to early recognition. Recovery is rare after operations for tuberculous growths, though apparent cures have been reported, but operation should be performed for palliation.

Slides depicting the various brain tumors found in children were shown. Usually there is a rapid onset of symptoms—headache, drowsiness, choked disk, and localizing symptoms. The congenital tumors are apt to be anlages from Rathke's pouch, suprasellar in position. Cushing operates on these with little mortality. Gliomas predominate in the pre-adolescent, usually midcerebellar, causing abrupt internal hydrocephalus and disturbances of locomotion. These call for decompression and deep x-ray therapy. That they are fetal rests would seem to find proof in the case of identical cerebellar neoplasms in monozygotic twins. Spongioblastomas also occur in children. Ventriculography and encephalography may be valuable diagnostic aids, but may be dangerous. This is also true of lumbar puncture. An astrocytoma which had undergone cystic degeneration was shown. These tumor cases call for more careful neurologic examination.

In discussion, Dr. George Wilson said that the general practitioner should have a "brain-tumor consciousness." Lumbar puncture in doubtful cases is dangerous, and should never be done without a manometer for pressure reading before withdrawal of fluid. Injection of air and lipiodol into the ventricles and lumbar spaces is dangerous. Many brain tumors in children are overlooked.

Dr. Harry Lowenburg demonstrated an improved needle for thoracic puncture and aspiration. Usually, thoracic puncture is made by a needle on an ordinary syringe, but this has the disadvantage of necessitating withdrawal of the syringe from the needle when full and the consequent production of a more or less extensive pneumothorax. Therefore, the syringe advised by the speaker carries between itself and the needle a stopcock, which, when closed after the syringe is full, prevents air from entering the pleural cavity. By this method, expensive apparatus is not necessary.

Mary A. Hipple, M.D., *Reporter.*

YORK—MAY

The regular scientific meeting was held on May 3d in the Professional Building with President O. A. Delle in the chair.

W. Newton Long, M.D., York, Pa.: Treatment of Fracture of the Femur with the Blake-Wallace Modification of the Thomas Leg Splint.—The Blake-Wallace method increases the convenience of handling a case of fracture of the femur, and controls the amount of extension much more accurately than any other method. The prominent symptoms which aid in diagnosing fracture of the femur shaft are deformity, pain referred to the thigh, muscle shortening, crepitus, extravasation of blood within the soft tissues, and a false point of motion which may readily be found by an effort to straighten the leg. X-ray examination is essential for the protection of patient and physician.

The two methods of treatment of a fractured femur are operative and nonoperative. In the latter, the reduction can be accomplished either by splinting with plaster of paris; by placing the limb in continuous traction applied to the skin, as in Buck's extension; by use of the ice tongs inserted in the condyles of the femur; or by means of the Blake-Wallace splint. In the operative method, the fracture is exposed and the bones replaced in their normal position, which is maintained by the application of external plaster-of-paris splints, or the fragments can be fixed by the use of internal splints (plates or screws).

In a boy of fifteen years (shown by the speaker) who fractured his femur six months ago, the Blake-Wallace modification of the Thomas splint was applied. The apparatus permitted free movement for the care of his back, and afforded a rigid unit of the splint and the leg independent of the bed. The splint and the leg could be moved from side to side without disturbing the fragments of the bone. The powerful extension attained with this apparatus overcame all shortening, and permitted accurate approximation of both fragments twenty-four hours after it was applied. An X-ray taken thirty-eight days after admission showed the fragments in perfect alignment. The minor discomfort caused by the counter-extension hip ring was overcome easily by padding with cotton and changing the position of the leg by adduction or abduction.

Milton H. Cohen, M.D., *Reporter.*

"Three quarters of being wise is being wise in time," quoth the late Theodore Roosevelt.

It is an ideal medical-society meeting when the atmosphere is that of one large family with all of its members in harmonious accord. This is a priceless heritage, which should be nurtured and not lost.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

MRS. E. KIRBY LAWSON, *Editor*
2533 Walnut Street, Harrisburg, Pa.

COUNTY AUXILIARY REPORTS

Allegheny.—The year's work was ended with the annual luncheon on May 22d, in the William Penn Hotel, Pittsburgh. The business meeting consisted of reports of standing committees, the auditor's report, an amendment to the by-laws, and election of officers for the coming year, as follows: President, Mrs. Theodore Baker; first vice-president, Mrs. Robert T. Hood; treasurer, Mrs. Homer W. Grimm; corresponding secretary, Mrs. David B. Ludwig; directors, Mrs. John F. McCullough, Mrs. John M. Wilson, Dr. Luba Robin Goldsmith, and Mrs. James I. Johnston.

The decorations were carried out in yellow, baskets of marguerites in pale gold forming the centerpiece at each table. The corsages presented to Mrs. John F. McCullough, the retiring president, and Mrs. Theodore Baker, who will occupy the chair this year, were of yellow rosebuds—the color chosen, said Mrs. James I. Johnston, in her greetings to these two leaders, "because it is the sunshine color." The program consisted of vocal selections by Mrs. Herbert E. Woelfel, accompanied by Mrs. Mildred Hoch Sage. A play, "The Doctor's Holiday," was given by members of the program and hospitality committee. It brought out the little trials, joys, and grievances which make up so great a part of the life of a doctor's wife.

Bucks.—The May meeting was held in the Elk's Home, Bristol, with nine members present. Ten dollars was voted for the Medical Benevolence Fund, and a petition was signed requesting the Legislature to refuse the chiropractors' request for a separate State examining board. Following the business session the Auxiliary joined the County Medical Society in a meeting addressed by Dr. James W. Kennedy, of the Joseph Price Hospital, Philadelphia. The next meeting will be in November.

Clinton.—On May 26th an organization meeting was held, with fifteen wives of physicians enrolling as charter members. Mrs. James Louis Lubrecht was elected president; Mrs. E. C. Blackburn, first vice-president; Mrs. David W. Thomas, second vice-president; Mrs. S. J. McGhee, third vice-president; Mrs. George D. Green, secretary; Mrs. W. J. Shoemaker, corresponding secretary; Mrs. F. P. Dwyer, treasurer; and Mrs. L. M. Holloway, Mrs. G. H. Gibbons, Mrs. J. E. Gibbons, Mrs. C. S. Bauman, Mrs. A. B. Painter, and Mrs. C. B. Kirk, directors. Mrs. Edward Lyon, of Williamsport, district councilor, presided at the meeting, and was assisted in the organization by Mrs. W. S. Brenholtz and Mrs. W. F. Kunkle, of the Lycoming County Auxiliary.

Dauphin.—At the meeting held June 5th in the Academy of Medicine, Harrisburg, the president, Mrs. C. R. Phillips, appointed the following nominating committee: Mrs. E. A. Nicodemus, Mrs. H. F. Gross, and Mrs. J. R. Plank. The auditing committee appointed consisted of Mrs. H. C. Myers, Mrs. Merl V. Hazen, and Mrs. Jesse L. Lenker. Five new members were reported, making a total of 65 now belonging to the organization. After a delightful entertainment, consisting of a dance recital by Alma Louise Payne, assisted by Gladys Attick, reader, and Phyllis Attick, pianist, refreshments were served by the following hostesses: Mrs. M. V. Hazen, Mrs. G. F. Gracey, Mrs. E. E. Darlington, Mrs. G. G. Snyder, and Mrs. D. E. Hoff. The next meeting will be held early in October.

Erie.—The Auxiliary's first venture into the field of public health was successfully conducted on May 25th in St. Paul's parish house, when an open meeting was held in the interest of child health. A large audience heard Dr. Mary Riggs Noble, of Harrisburg, chief of the Preschool Section of the State Department of Health, speak on this subject. She suggested methods of care and prevention, featuring infant mortality in Pennsylvania, vaccination for smallpox, prevention of diphtheria with toxin-antitoxin, periodic examination of the child, especially the child about to enter school, prenatal care of pregnant mothers, etc. After the meeting, a dinner was held at the Woman's Club in honor of Dr. Noble, attended by the members of the executive board.

This newly organized Auxiliary now numbers over fifty-five paid-up members, and the others are fast falling into line. Through their influence, about fifty physicians now keep *Hygeia* on their waiting-room tables.

The value of certified milk, the method of producing it under the strictest sanitation, and the fine herd from which it is obtained was demonstrated to the Auxiliary on June 19th, when Mr. and Mrs. George Taylor entertained the members at tea on the White Swan farm. This was the final meeting before the summer recess. Meetings will be resumed in September, and a definite program will be inaugurated.

Greene.—The May meeting was held on the 8th, at the home of Mrs. T. L. Blair, with Mrs. R. E. Brock, the president, in the chair. The committee on constitution and by-laws presented an amendment changing the dues from two to three dollars a year. This was adopted. Legislative, membership, notification, press, program, and health committees were appointed. Mrs. Hill, Mrs. Parry, and Mrs. Rice, widows of doctors who were members of the A. M. A., were elected to honorary membership.

The June meeting was held on the 12th at the home of Mrs. W. B. Clendenning. The treasurer reported a balance of $25.85, ten dollars of which is to be contributed to the Medical Benevolence Fund. Mrs. Samuel T. Williams read a paper on "The Progressive Light." Refreshments were served by the hostess, and the Auxiliary adjourned to meet the first Tuesday in September at the home of Mrs. Donald R. Jacobs.

Lackawanna.—At the meeting on May 8th in the Chamber of Commerce Building, the president, Mrs. M. J. Noone, presided. Mrs. Noone and Mrs. M. I. Pentecost were named as delegates to the State meeting in Allentown next October, and Mrs. W. R. Doris and Mrs. F. J. Bishop as alternates. It was decided to hold an affair in the fall to assist with the Medical Benevolence Fund. After the business session, Mrs. Noone entertained the officers and committee chairmen at a luncheon at the Hotel Casey. Spring flowers were used in the table decorations. Covers were laid for ten.

On May 23d a luncheon was held at Irem Temple Country Club, Dallas. Mrs. J. A. MacLean was the general chairman in charge of the arrangements. Lilies of the valley and apple blossoms were used in the attractive table decorations. The president gave a brief talk on the activities of the organization and its success,

and forty new members were welcomed into the Auxiliary. A delightful afternoon was spent at golf and cards. Sixty-two were present.

Lancaster.—The April meeting was held in the Medical Club. Mrs. T. B. Appel, the president, appointed social, legislative, and public-health committees. It was decided to hold future meetings in the evening, at the same time as the County Medical Society. Twenty-five members were present.

The June meeting was held at the home of the president, twenty-one members being present. The next meeting will be held in September.

York.—At the meeting held May 3d in the Professional Building, York, three new members were received. A report was made of the card party held for the benefit of the Medical Benevolence Fund on March 20th, and $50 was voted for this purpose. Mrs. Noll reported twelve *Hygeia* subscriptions.

On June 7th the annual meeting was held, and the following officers were elected to serve for the ensuing year: President, Mrs. C. W. Eisenhower; vice-president, Mrs. G. E. Holtzapple; secretary, Mrs. P. A. Noll; treasurer, Mrs. A. C. Sorensen. Following the meeting, cards and a social time were enjoyed by all.

NEWS FROM OTHER STATES

Georgia.—At the Ninth District semi-annual meeting on March 21st at Canton, two addresses were made: one by Dr. Roger W. Dickson on "Infants and Preschool Hygiene," and the other by Dr. Joseph Yampolsky on "The Importance of Physical Examinations for Children Entering School." A message from the State Auxiliary president, Mrs. Paul Holliday, Athens, music, and facts concerning the Auxiliary completed the program, following which the members joined the doctors at dinner. After dinner, the local physicians chaperoned the members on a visit to the Georgia Marble Quarries at Tate.

Kentucky.—To the women of Kentucky belongs much of the credit for the aroused public opinion which killed the Ripper Bills (House Bill 463 and Senate Bill 493) in the 1928 session of the General Assembly at Frankfort, and kept the State Board of Health under the supervision of the medical profession. Realizing that physicians are the only body of citizens qualified to assume the responsibility of guardians of the health and lives of the people, women in all walks of life throughout the Commonwealth worked and prayed without ceasing that the State Board might be saved from the perils of politics and politicians.

Foremost in action was the Woman's Auxiliary to the Kentucky State Medical Association. A letter dated February 15th was sent to the wives of all Kentucky physicians, explaining the attempt to throw the Board into partisan politics, and stating that for fifty years the health of Kentucky had been the responsibility of the physicians of the State, and that the Woman's Auxiliary had set for its task the securing of fifty letters to the Governor and the State Senators and Representatives opposing the Ripper Bill. This letter was to be written within forty-eight hours. The response of the wives to the call for service was more than gratifying. So great was the influx of letters and telegrams that the opposition also believed it expedient to send a "woman's letter" to the legislators.

During the discussion on the floor of the House preceding the vote on the bill, on February 21st Mr. Daniel Boone Smith, member from Knox County, urged the passage of the bill and read the "Virginia Claire" letter in support of his argument. The letter was alleged to be bogus, since "Virginia Claire" could not be found in Lexington, from which place the letter had been mailed. It was known, however, who wrote the letter, and that *his* name was neither Virginia nor Claire. His chief object was the destruction of the State Board of Health.

After some further debate, the motion was put, the bill was defeated, and the clincher motion was applied. According to the rules of the House, this meant that the Ripper Bill was dead for this session.

However, an almost identical bill was introduced into the Senate by Senator John Thurmond, of Christian County, on March 1st. This bill was passed by the Senate on March 6th, with the understanding that "any bill originating in the Senate and passed by the Senate must be considered by the House, providing the House has time for it."

That night, March 6th, the May Day-Child Health dinner, arranged by Dr. Annie Veech to inaugurate the May Day activities of the Bureau of Maternal and Child Health of the State Board of Health, was held at the Brown Hotel, Louisville, with Mrs. R. S. Witherspoon, chairman of the health committee of the Louisville Woman's Club, presiding. About five hundred people were present. Among the speakers were several noted health workers from New York, Boston, and Washington. Dr. A. T. McCormack made a speech, and followed it with an announcement of the passage of the Ripper Bill in the Senate. He warned all those present that unless prompt and efficient measures were taken, the health work in Kentucky would be demoralized.

Letters, telegrams, and petitions urging the defeat of the Ripper Bill flooded the desks of the Legislators. The Bill was read into the order of the day in the House on March 9th. The second reading was Saturday, March 10th. After that time it could be brought to the floor for a vote at any time the Rules Committee saw fit, as bills do not have to be posted during the last five days of a session. Everybody kept working. Particularly noteworthy was the campaign of the *Lexington Herald,* whose editor, Mr. Desha Breckinridge, joined the fight determinedly and unreservedly. During the last seven days, delegations interested in the welfare of the State, busy men and women from all sections, thronged the corridors and galleries of the Capitol, interviewing their own Representatives, and urging the defeat of the Ripper Bill. Here they were jostled and crowded by the chiropractors and numerous other lobbyists whom the opposition had corralled to help "get the State Board of Health," and who assumed the privileges of the floor, until they became such a nuisance that the Speaker ordered the Sergeant-at-Arms to clear the floor.

However, "right will prevail," and the Rules Committee killed the bill on March 14th. Friends of the State Board of Health kept on the alert, waiting, ready to rush to the House Chamber should their votes be needed to "kill that Ripper." Several of the opposition forces continued on the alert, too, and vainly waited a last-minute opportunity to put it over during that long, weary final night of March 15th, until the gavel at length descended upon adjournment.

To kill this piece of pernicious political intrigue called forth the energy and brains of all Kentuckians truly interested in the welfare of the Commonwealth. The clarion call of the women, instantly heeded, was unswervingly answered from every hill, valley, and

plain in the State, and all kept faithfully at the post, never faltering, until victory was assured.

Texas.—Organization of the Medical Auxiliary Juniors was perfected during the past year under the administration of Mrs. E. V. DePew. According to the by-laws of the organization, any boy or girl under eighteen years of age whose father is eligible to membership in a county medical society may become a member of the organization. The object is: (1) to promote a closer friendship among families of doctors; (2) to increase subscriptions to *Hygeia*, and (3) to augment the membership of the Woman's Auxiliary. The schedule of meetings is dependent upon the wishes of the members, and the programs are to be arranged entirely by them, possibly utilizing articles from *Hygeia*. A parliamentary drill for a short period at each meeting would be beneficial.

Following is the creed of an Auxiliary Junior: "To live each day with a real consideration for the health and happiness of my community. To train my eyes to see the things which should be eliminated for health's sake; viz., dripping hydrants, water holes, open tin cans, weeds, etc. To interest my neighborhood in constant clean-up campaigns in order to free us from flies, mosquitoes, roaches, mice, rats, etc. To arouse interest in, and to encourage financial support for, the public-health nursing service. To demand fresh air, exercise, nourishing food, and many hours of sleep for all children. To insist upon the use of sanitary drinking cups, sanitary towels, etc., in all public places."

West Virginia.—The fourth annual meeting was held in Fairmont, May 22d to 24th, and was called to order by Mrs. S. B. Preston, of Charleston, president. The address of welcome was made by Mrs. L. D. Howard, of Fairmont, and the response was made by Mrs. Albert H. Hoge, of Bluefield. The address on the opening morning was made by Mrs. A. T. McCormack, of Louisville, Ky., president of the Auxiliary of the Southern Medical Association. An educational program dealing with membership and organization was put on during the afternoon, including a round-table discussion. A joint meeting with the State Medical Association was held the same evening. At the business meeting on the morning of May 23d, greetings were extended by Mrs. Charles H. Smith, president of the Pennsylvania Auxiliary. A health demonstration was presented by Miss Marion Bell, public-health nurse of Marion County, followed by an address by Dr. Valeria Parker, of New York City, president of the American Social Hygiene Association. Her subject was "The Task of Social Hygiene." The executive board meeting on May 24th concluded the program.

Two New Courses in Public Health

The National Tuberculosis Association will coöperate during the next academic year with Columbia University, New York City, in the development of two extension courses on public health. The first course will be on principles and problems of the public-health movement, and will be a general cultural and informational course, designed to give those who are taking it a broad perspective of the content and problems of the agencies embraced in the National Health Council and in the whole public-health field. The course will consist of 60 lectures, covering 30 weeks of the academic year, and is designed to appeal to various groups of persons. The following broad groups of topics will be covered: The Health of the Child, the Hygiene of the Mind, Health in the Home, Health in the Community, the Control of Tuberculosis, Social Hygiene, the Prevention of Blindness, the Control of Cancer, the prevention of Heart Disease.

The second course will deal with methods of health publicity, and will be in the nature of a two-weeks' intensive institute on this subject. The course is designed particularly for publicity workers in the health field, and will cover the following general topics: The Psychology of Health Advertising and Publicity; the Newspaper, Trade Journal, House Organ, Etc.; Printed Matter and Relation to Health Advertising; the Spoken Word and Graphic Methods.

For further information write to Columbia University, New York City, or to Philip P. Jacobs, National Tuberculosis Association, 370 Seventh Avenue, New York City.

How to "Get By" the City Editor

For the benefit of publicity agents of State and county societies, the following advice on the subject is abstracted from a report of talks by newspaper men of Boston before a meeting of the Council of Social Agencies reported in *Better Times:* "The papers want what will be read. The topic is relatively unimportant. Tons of copy are discarded every week. Whatever goes in, gets there after a contest. Don't write on tissue. Don't single space. Manifolded copy is self-evidently not exclusive. Put the news story in the first paragraph, or lead, and be brief. Short, interesting news items have a real chance. Long copy, if used at all, is pretty sure to be cut. The papers are some 95 per cent emotional and about 5 per cent intellectual. They are interested in persons rather than things. And they are interested in persons only when they are doing something unusual, or where they are so different from others as to constitute news. Pictures help."

Recent Publications

The New York Academy of Medicine, Fifth Avenue and 103d Street, maintains at the Academy a Bureau of Clinical Information regarding opportunities for graduate medical study in cities of the United States, Canada, and Europe. A series of twelve synopses of approved post-graduate courses in clinical specialties offered in New York City has been published. A daily Clinical Bulletin lists the operations to be performed each day in the clinics of seventy-five hospitals, and a weekly Bulletin of Nonoperative Clinics and Conferences held in forty hospitals also is published. Copies of these bulletins may be obtained at the Bureau, and will be mailed to visiting doctors on request.

Conserving the Sight of School Children is the title of a report on the program for public schools prepared by the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association with the coöperation of the National Society for the Prevention of Blindness. The booklet may be obtained at cost (35c) from the latter organization, at 370 Seventh Ave., New York City. It has the purpose of supplying teachers, school officials, and others concerned with vision problems as related to education, with information, advice, and practical directions which will promote the conservation of vision of school children.

Pennsylvania physicians will be interested in the *Year Book* of the Pennsylvania Tuberculosis Society. This outlines the high spots in the development of the Society's work during the past year, possibly the most noteworthy of which is the establishment and success of the medical service.

Tuberculosis Abstracts

A Review for Physicians

PREPARED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Published through the coöperation of the Pennsylvania Tuberculosis Society and the Medical Society of the State of Pennsylvania

The x-ray is a valuable diagnostic aid in diseases of the chest. Definite roentgenologic evidence of enlarged lymph nodes, plus a positive tuberculin reaction strongly indicates tuberculosis of the juvenile type. Definite parenchymal changes seen in the x-ray film, located usually in the upper half of the chest, and which coincide with the clinical findings, strongly support the diagnosis of pulmonary tuberculosis. But the x-ray must be regarded, at best, as merely an aid to diagnosis. Interpretations of the plate should always be made by roentgenologist and clinician jointly.

Chests of Normal Children

A group of three roentgenologists, working in close coöperation with as many clinicians, attempted to establish the x-ray appearance of the normal child's chest. Five hundred children were studied. While it was found impossible to describe a normal chest, they succeeded in establishing a theoretical normal with wide variations that would serve as a basis for the interpretation of abnormal appearances. A composite diagrammatic reproduction of several roentgenographs was made and marked off into three zones. Zone I contains the root shadows; Zone II, the trunk shadows, gradually fading out into their final subdivisions; and Zone III, lines radiating from these and shading off before the periphery is reached. The conglomerate shadow, commonly called the hilum shadow, when found lying entirely within Zone I, may be regarded as normal except where it is made up of a solid mass of homogeneous shadow giving undoubted evidence that it represents a growth or mediastinal pleurisy. Calcified nodes at the root of the lung without evidence of lung disease are of no significance except as a possible evidence of some healed inflammatory condition, possibly, but not necessarily, tuberculous. Where in Zones II and III normal shadows do not gradually fade out as described, the appearance may be due to a variety of conditions of an inflammatory nature or otherwise; it may accompany a tuberculous process but is not necessarily indicative of tuberculosis.—"Clinical and X-Ray Findings in the Chests of Normal Children." Henry K. Pancoast, Kennon Dunham, and F. H. Baetjer, *Amer. Rev. of Tuber.*, July, 1922, vi, 331-40.

Composite diagram made from several roentgenographs of normal children's chests and divided into zones.

The Healthy Adult Chest

The same group of clinicians and roentgenologists later attempted to describe the roentgenologic appearance of the normal adult chest. In view of the many lasting evidences of previous disease found in clinically normal chests, it was decided to discontinue the use of the term *normal chest*, and adopt that of *healthy chest*. On this basis, the clinicians selected 280 adults whose chests were clinically normal. Relationships and appearances of the bones, soft parts, diaphragm, heart, aorta, trachea, and bronchi were studied, as well as the hilum shadow, the trunk shadows, and calcifications. It was found convenient and practical to divide the chest into zones as in the child's chest studies. Another valuable landmark was established by dropping a perpendicular line from the mid-point of the left clavicle. This line passes well outside the middle of the diaphragm and the apex of the heart is well within the line. Calcifications were almost universally noted in one or both hila by two members of the x-ray group and not so fre-

quently by the third member. Calcifications were occasionally found in the upper lobes and quite frequently along the heavy trunks to the lower lobes. As calcified tuberculosis lesions increase with age, and as they are more numerous with children in contact families than with those in noncontact families, it was concluded that calcified tracheobronchial lymph nodes in adults are less significant than in children, for in most instances healing has doubtless occurred.

The complete report, illustrated with diagrams and x-ray photographs, may be secured through the tuberculosis society.—"Studies on Pulmonary Tuberculosis. II. The Healthy Adult Chest." Henry K. Pancoast, F. H. Baetjer, and Kennon Dunham. *American Review of Tuberculosis,* April, 1927, xv, 429-71.

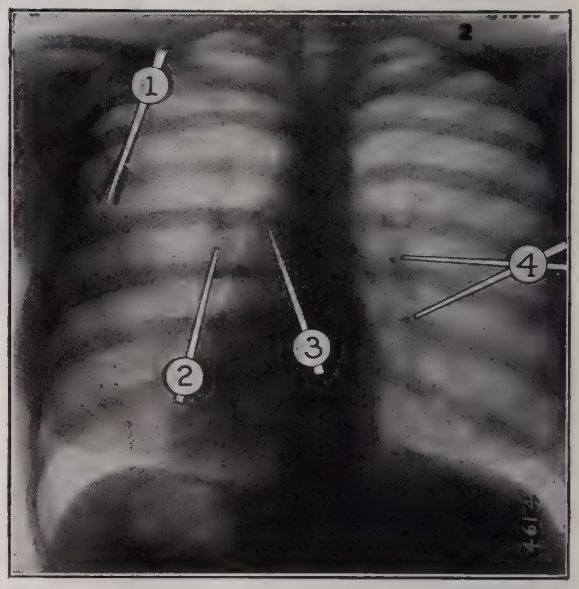
X-Ray for Discovering Juvenile Tuberculosis

A study of 50,000 school children, made by the Massachusetts Department of Health, showed that 3.7 per cent had hilum (tracheobronchial) tuberculosis. Without a roentgenograph, no absolute diagnosis of hilum tuberculosis can be made, nor can tuberculosis be eliminated in an ill child unless the x-ray films are negative. Slight changes in area of density of the hilum shadows are of no significance, but areas of increased density at the root of the lung or along the trachea that have the form of glands or gland masses justify the assumption that calcified tuberculosis glands are present. Rarely one finds a large area of homogeneous shadow extending from the hilum toward the periphery due to a recent infection with tubercle bacilli. Serial films, taken at intervals of several months, show a gradual absorption, ending eventually in a small, calcified nodule.—"The Diagnosis and Prognosis of Juvenile Tuberculosis." Henry D. Chadwick, *Boston Medical and Surgical Journal,* January 26, 1928, cxcvii, 1399-1401.

Serial X-Rays to Follow Progress

Many roentgenologists and clinicians advise that x-ray plates be made serially, that is, at regular intervals, in order to determine (in conjunction with clinical findings) whether the disease is progressing, retrogressing, or remaining stationary. A brief summary of the course of tuberculosis as followed by the x-ray is as follows:

In early active tuberculosis, infiltration most commonly appears in the periphery of the lung above the level of the third rib. The shadows appear light and fuzzy or mottled, densest in the center. Leading from the mottling toward the lung hilum, there are usually seen fuzzy areas along the linear markings and the bronchial trunks. As the disease progresses, the mottling may spread over a considerable area, and the shadows seem to coalesce. The densest shadows are interpreted as caseation, and these usually appear where the dense areas in the mottling were first seen. From infiltration to caseation ordinarily requires more than a month. Later, the dense caseous shadows become less dense and often entirely disappear, thus leaving areas of rarefaction. By the coalescence of several such areas, a large area involving, sometimes, the greater part of the upper lobe may result, giving evidence of cavitation. As healing begins, the hazy outlines, particularly those at the hilum, become sharper and the areas shrink. Definite opacity is interpreted as deposits of calcium. Consolidated areas, as they become fibrous, show heavy bands extending from the hilum to the periphery. After calcification takes place, areas interpreted as caseation increase in density and finally become sharp and opaque. Calcification is found to develop in from eight months to two years. The obliteration of cavities may be shown by the x-ray. Around the areas of rarefaction (cavitation) is seen a dense ring (fibrous wall). As fibrosis increases, the ring contracts until there remains only a heavy clouding or small deposits of fibrous tissue.—"Modern Aspects of the Diagnosis, Classification, and Treatment of Tuberculosis." J. A. Myers. Chap. ix, Williams & Wilkins.



Peripheral Nodule with Tracheobronchial Calcification.

In the left fifth interspace, near the posterior axillary line, is an irregular calcified nodule (1). On the shadow of the left arterial main stem, at the level of the sixth rib and interspace, is a faint irregular calcium shadow (2), and another, irregularly club-shaped, lies mesially on the aortic curve at the sixth rib (3). The homogeneous densities on the right (4) are due to blood vessels, axially radiated.

Roentgenograph and Interpretation by F. M. McPhedran, of the Henry Phipps Institute, Philadelphia, Pa.

THE

MEDICAL SOCIETY OF DELAWARE

ACUTE INTESTINAL OBSTRUCTION*

JAMES BEEBE, M.D.
LEWES, DEL.

E. W. Groves, Bristol, in the *Medical and Chirurgical Journal* for March, 1912, says that persistent abdominal pain of severe type with abrupt onset in a patient previously in good health, unrelieved by rest, starvation, and gastric lavage, is the most notable sign and often the only one upon which a diagnosis of acute intestinal obstruction can be based.

The condition is due to a sudden narrowing or occlusion of the lumen of a portion of the intestine. The stagnated intestinal contents become charged with powerful poisons. The putrefaction which normally takes place in the large intestine then occurs in the small intestine. These poisons act on the musculature of the intestinal wall, and after absorption, attack the heart and nervous system. The shock in the beginning is due to the sudden blocking. The depression coming on later is due to absorption of poisons. Gas forms in abnormal amounts, causing great distention which embarrasses the respiration and circulation by pressure on the diaphragm. When the distention becomes sufficiently marked, there is increased peristalsis. Owing to the obstruction, the contents are unable to pass downward and are consequently forced upward.

The obstructions are classified as follows: strangulation, intussusception, volvulus, obturation, stricture, tumors outside the bowel, embolism or thrombosis of the mesenteric vessels, and postoperative intestinal obstruction.

The general symptoms are quite characteristic. The facies is usually well marked, the skin being pale, and the eyes sunken. There is more or less embarrassment of respiration and circulation. The nose is pinched, the skin clammy, the extremities cold, and the pulse small, weak, and rapid.

The cardinal symptoms are pain, vomiting, tympany, and tumor. Pain is frequently the first symptom, coming on suddenly, and usually at first being colicky and intermittent. Later, it is continuous and severe. When the lesion is low down, peristalsis may be visible above the obstruction. Vomiting is an almost constant symptom, and is unrelieved by starvation and gastric lavage. The vomitus first consists of the contents of the stomach, later followed by bile-stained fluid, and finally the characteristic odor of fecal vomiting is observed. Actual vomiting of fecal matter, however, is rare, and occurs only when the obstruction is low down. The urine is scanty and high-colored. Tympany varies according to the seat of obstruction, and is more extensive the lower the site of the lesion. The presence of a tumor is characteristic of certain forms of obstruction, such as intussusception. Early, an apparent movement of the bowels may occur as a result of peristaltic action below the obstruction. After the lower bowel has been emptied, there is absolute constipation.

DIAGNOSIS

In this connection, it is necessary to consider both the location and nature of the obstruction and its differentiation from other conditions simulating it. It is not always possible to determine the site. In fact, it is frequently impossible. The age, sex, occupation, and past history are factors which will give considerable aid. For instance, volvulus, malignancy, and impaction are to be looked for in the aged; while intussusception, Meckel's diverticulum, or a constricting appendix is more apt to be found in a child; and either Meckel's diverticulum or a constricting appendix in the youth or young adult. A history of previous operation, an attack of peritonitis, or a traumatism to the abdomen may aid in the diagnosis.

Rectal and vaginal examination should always be done. In case of obstruction high up, empty coils of small intestine will usually be found in Douglas's pouch. Anuria or diminution of urine is also quite marked in obstruction high up. Palpation may reveal a tumor. When the colon is involved, tenesmus frequently occurs, with passage of mucus and blood. This is especially true of intussusception. DaCosta states that very little help is obtained by inflation with gas

* Read before the Medical Society of Delaware, Farnhurst, Del., October 12, 1927.

or from any attempt to determine the amount of fluid the colon will hold. Opaque enemas of barium suspensions are very useful in some cases, but should be used carefully. Among the most difficult types to diagnose are the internal strangulations — Littré's hernia, constriction through slits in the omentum or mesentery, constriction through the foramen of Winslow, or retroperitoneal hernias. An examination of all possible sites for the development of hernia should be made.

Fecal obstruction, as a rule, is one of the easiest conditions to recognize. Foreign bodies may be discovered by x-ray or from the history. In obstruction from foreign bodies, distress may exist for days, vomiting is late and rare, and pain and tenderness are more severe. A history of attacks of hepatic colic may point to gall stones.

Obstruction from stricture or pressure comes on acutely after prolonged periods of disturbance, and usually follows several attacks of partial obstruction. A history of blood or pus would indicate tumor in the lumen. Mesenteric-vessel obstruction causes colic and abdominal pain, but, early, there is no tenderness, rigidity, nor distention. Moderate vomiting may occur. Cardiac disease can usually be demonstrated, and albuminuria is common.

Postoperative obstruction may follow an abdominal operation within a week, or it may not come on for months. It may be due to some condition at the seat of operation or one distant from it. It may arise from paralysis of a portion of the bowel. There is colicky pain, vomiting, distention, and constipation. In obstruction from a Meckel's diverticulum, there is often a history of former attacks (Halsted). Early in the attack, there is local meteorism, especially under the costal arch on the right side, but no distention at the flanks. The tenderness is most marked just to the right of the umbilicus, on a level or slightly below.

As to the differential diagnosis, the history of shock, the presence of the cardinal symptoms, the absence of fever, and stercoraceous vomiting will serve to differentiate acute obstruction from most of the conditions with which it might be confounded, such as acute appendicitis, pancreatitis, renal colic, hepatic colic, torsion of the pedicle of a tumor, or floating kidney.

In a majority of cases, the fate of the affected gut is determined and immediate operation demanded within twenty-four to forty-eight hours. The development of the complete clinical picture, therefore, should not be awaited.

Prognosis

In the vast majority of cases, this is a matter of diagnosis. The earlier operative interference is practiced, the greater the chance of success. Without surgical relief, most patients die within ten days. Death may be due to shock, exhaustion, peritonitis, or to obstruction of respiration or circulation by tympanites. Recovery has occasionally taken place by the formation of a fistula externally or into some other portion of the bowel. In obstruction from foreign bodies, the foreign body is occasionally passed. In intussusception, recovery may follow sloughing of the prolapsed gut.

Treatment

Two urgent indications are present in intestinal obstruction. One is to relieve the obstruction immediately, and the other to correct the cause. The necessity of the first and the desirability of the second are self-evident; but it is frequently impossible to remove the cause, either from the nature of the obstruction or the condition of the patient, and some compromise measure must be adopted which will provide either temporary or permanent exit for the intestinal contents, the defect being removed later.

The diagnosis once made or even strongly suspected, operation should be resorted to as promptly as possible, with one or two exceptions. Cathartics are strongly contraindicated. Finney (*Surgery, Gynecology, and Obstetrics* for May, 1921) says that the indications for operation are an intestinal type of vomitus and an increasing pulse rate, with restlessness and thirst. Surgical relief of obstruction, being the only hope, should be instituted early before the patient has absorbed a lethal dose of poison. The only excuse is the refusal of the patient to accept advice. Gastric lavage should be practiced, and the lost body fluids replaced by proctoclysis and hypodermoclysis both before and after operation.

Fortunately, the cause is removable in almost all instances; and, if the patient's condition permits, this should be done at one operation. The method of McKenna—direct surgical drainage of the upper intestinal area by a quick enterostomy in the jejunum—will tide many patients over the crisis.

DaCosta states that it may be justifiable to undertake to reduce an intussusception by postural and succussion methods within the first twenty-four hours, but that, in his opinion, early operation is safer and more certain. Rushmore says that operation during the first twelve hours would greatly reduce the mortality. In a series of 245 cases in which operation was done within

twelve hours, the mortality was only five per cent. Unquestionably, the large mortality is not due to the condition of obstruction or to the operation, but to delay.

Paralytic ileus may be treated by 500 to 1,000 c.c. of saline solution, with one to two fluid drams of pituitary extract administered intravenously, says A. Mayer, in the *Munich Bulletin* for July, 1924. Hypodermics of atropin sulphate, gr. 1/200 every two hours, physostigmin salicylate, gr. 1/64, and surgical pituitary extract, 1 c.c., intramuscularly, hourly for three doses, are also beneficial.

Owing to the lack of time and the condition of the patient, elaborate preparation for operation should not be made. The stomach should be washed out and the abdomen prepared upon the table. Local anesthesia should be used in a patient whose condition is bad, especially for a simple enterostomy. Reasonable speed should be maintained, as time is an important factor. If a patient with obstruction is gravely shocked, Moynihan advises opening the abdomen under local anesthesia, picking up the most distended coil of the intestine which presents itself, and doing an enterostomy, suturing a tube in place without making any search for the lesion. The obstruction being temporarily relieved, if the patient recovers, the causative lesion may be subsequently sought for and removed.

C. H. Mayo *(Annals of Surgery* for 1917) says that after abdominal operations, there is usually a period of stasis which acts as a protective measure. Enemas are given the day following operation. If there is no relief, lavage, laxatives, and hypodermics of pituitrin or eserin are given during the second night and third day. If these do not bring relief, it is concluded that obstruction is complete. The patient usually vomits and looks toxic. On the evening of the third or morning of the fourth day, the patient is taken to the operating room, and the incision opened. If there is general peritonitis, an enterostomy is done without exploration. If there is no peritonitis, exploration is made, and the cause, which is usually adhesions, is removed. If operation is delayed until late in the fourth day, toxic paresis may complicate existing conditions.

After the publication of an article in the *Journal of Surgery, Gynecology, and Obstetrics* about three years ago, advocating for all patients undergoing serious abdominal operations the use of sodium bicarbonate and glucose solution, fluid ounces x, cum fluid drams ii of Burroughs and Wellcome's tincture of digitalis, by proctoclysis as soon as the patient has been returned to bed from the operating room, we have adopted this as a routine measure at the Beebe Hospital, and rarely have any trouble from postoperative distention or paralytic ileus. The exhibition of morphin and atropin will do much to relieve shock and splint the bowel, thus making the patient a better operative risk.

In a series of twenty cases taken from the files of the Beebe Hospital, there were four which occurred postoperatively while the patient was still in the hospital as the result of an abdominal operation; five were postoperative from an operation at some previous date, ranging in time from three months to eighteen years; two occurred as a result of neoplasms in the rectum; three, as a result of strangulated hernia—two femoral, and one inguinal; one as a result of intussusception, ileocecal in type; five were a result of appendicitis with peritonitis.

Exclusive of the patients already in the hospital, the time which elapsed after onset before the patient was admitted to the hospital ranged from twelve hours to two weeks. Two were admitted within twelve hours, two in twenty-four hours, one in thirty-six hours, two in forty-eight hours, four in seventy-two hours, one in ninety-six hours, two in one week, and one in two weeks. Of this number, six were in good condition, two fair, seven poor, three in shock, and three practically moribund. One of these was the only case of intussusception, and was admitted the sixth day after onset. All of these patients were operated upon promptly, with the exception of one. In those whose condition was most critical, enterostomy alone was done. When the patient's condition warranted it, the cause was found and removed. There were nine deaths and eleven recoveries.

From this series, our observations are as follows: The cardinal symptoms, from the history obtained, were present in practically all cases. Several cases were treated with home remedies, especially cathartics, and the doctor was called only when these not only failed to give relief but aggravated the existing condition. In a few cases, however, the family physician was called early, and advised immediate removal to the hospital, which was refused until such time as the family recognized that the patient's condition was critical, but by this time the case was practically hopeless. We are convinced that enterostomy done early is of inestimable benefit, but will not save the moribund cases.

Our conclusions are, therefore, that early diagnosis, proper preliminary treatment, prompt operation, and meticulous postoperative care will save many lives which would otherwise be needlessly sacrificed.

Medical News

Deaths

MRS. MARIE B. SMITH, wife of Dr. Joseph I. Smith, of Philadelphia; June 10.

MRS. CORA LEE BARNES, wife of Dr. Charles S. Barnes, of Philadelphia; June 16.

MRS. LORETTA G. BYRNE, widow of Dr. Thomas J. Byrne, of Philadelphia, who died four years ago; June 2.

THEODORE H. WERTZ, M.D., of Hanover; College of Physicians and Surgeons, Baltimore, 1904; aged 53; June 2.

AMOS M. PIERCE, M.D., of West Elizabeth; Jefferson Medical College, 1876; aged 77; May 8, of pernicious anemia.

JOHN A. CLARK, M.D., of Bedford; University of Pennsylvania School of Medicine, 1871; aged 80; May 7, of uremia.

JOHN L. WENTZ, M.D., of Scranton; University of Pennsylvania School of Medicine, 1882; aged 69; April 1, of heart disease.

W. FOREST SHARPNACK, M.D., of Oil City; Jefferson Medical College, 1902; on the staff of the Oil City Hospital; aged 52; May 9, at Mercer.

M. C. HUNTER, M.D., of Sayre; Jefferson Medical College, 1892; one of the founders of the Peoples Hospital at Sayre; coroner of Bradford County; aged 58; May 27, of influenza.

WILLIAM C. SMITH, M.D., of Woodbine; University of Pennsylvania School of Medicine, 1897; formerly on staff of the York Hospital and health officer of York; school inspector for many years; aged 54; April 28, of myocarditis and chronic nephritis.

JEAN SAYLOR BROWN, M.D., of Williamsport; Woman's Medical College of Pennsylvania, 1874; one of the founders of the first hospital in Williamsport and the first woman to perform a major operation in that city; retired from practice thirty-five years ago; aged 84; June 23.

DR. WILLIAM ALEXANDER YOUNG, director of the Gold Coast Medical Research Institute of Yellow Fever, died of yellow fever at Accra, Africa, the latter part of May. Dr. Young was a coworker with Dr. Hideyo Noguchi, who died recently at Accra of yellow fever resulting from his researches into the origin of that disease. It is believed that Dr. Young contracted the disease in his researches with Noguchi.

WM. M. LATE COPLIN, M.D., of Atlantic City, N. J. (formerly of Philadelphia); Jefferson Medical College, 1886; former director of the Department of Public Health and Charities of Philadelphia; at one time professor of pathology at Jefferson Medical College and Medical Director of the Jefferson Hospital; former pathologist for the State Board of Health; served on staffs of St. Mary's, St. Agnes's, Philadelphia General, and Jefferson Hospitals; served abroad as lieutenant colonel in charge of Base Unit No. 38 in the World War; aged 64; May 29, after an illness of nearly five years.

CHARLES PLATT, M.D., of Ardmore; Hahnemann Medical College and Hospital, 1900; practiced medicine in Philadelphia for nineteen years, but past few years devoted himself to writing; noted as chemist, sociologist, psychologist, and student of crime; fellow of the Chemical Society of London, and honorary fellow of the Society of Biological Chemists of London; member of the Society of Founders and Patriots; emeritus professor of chemistry and toxicology at Hahnemann Medical College; at one time chief chemist for Thomas A. Edison; aged 59; June 14, after a year's illness.

Births

TO DR. AND MRS. J. J. O'CONNOR, of Spangler, a son, April 7.

TO DR. AND MRS. LOUIS J. LIVINGOOD, of Womelsdorf, a son, recently.

TO DR. AND MRS. HARRY J. KIRBY, of Harrisburg, a daughter, recently.

TO DR. AND MRS. CLYDE D. FLORY, of Sellersville, a daughter, May 20.

TO DR. AND MRS. D. J. MCCARTHY, of Philadelphia, a son, Daniel J. McCarthy, Jr., June 1.

TO DR. AND MRS. WILLIAM HENRY WALSH, of Chicago, Ill., a son, William Frederic Walsh, May 27. Dr. Walsh is a member of the Philadelphia County Medical Society.

Engagement

MISS ELIZABETH LIVINGSTON BOYD, daughter of Dr. and Mrs. George M. Boyd, of Philadelphia, and Mr. Galloway Cheston Morris, 3d, also of Philadelphia.

Marriages

MISS HELENE BALENTINE to Dr. Robert R. Schultz, both of Scranton, recently.

MISS BERTHA L. SHAY, of Philadelphia, to Dr. Elwood P. Flanders, of York, January 30.

MRS. LOUISE MAITLAND DAYTON, of Williamsport, to Dr. Paul H. Bikle, of Mifflinburg, June 6.

MISS MARY EVANS to Mr. Francis Heston, son of Dr. and Mrs. Patrick J. Heston, of Scranton, in June.

MISS ETHEL BLANCHE HAINES, daughter of Dr. and Mrs. D. D. Haines, of Charleroi, to Mr. Lloyd Henry Bowers, June 6.

MISS LUCILE DELANEY, daughter of Dr. and Mrs. W. E. Delaney, of Williamsport, to Mr. Paul Edward Viehdeffer, June 2.

MISS ELINOR SMITH, daughter of Dr. and Mrs. A. W. Smith, of Scranton, to Mr. Phillip Francis Roan, of Fort Madison, Iowa, recently.

MISS HELEN RAMSEY MULLER, daughter of Dr. and Mrs. George P. Muller, of Philadelphia, to Mr. Edmund Berkeley Taylor, June 19.

MISS HENRIETTA HEDDENS, of Pasadena, Calif., to Mr. Kennedy Hamill, son of Dr. and Mrs. S. McC. Hamill, of Philadelphia, June 27, in Pasadena.

DR. REBECCA MCFARLANE PATTERSON, a member of the staff of the Pennsylvania State Hospital, Norristown, to Dr. Samuel C. Rhoads, of Philadelphia, May 28.

MISS ELIZABETH ST. JOHN KELLEY, daughter of Dr. and Mrs. J. S. Kelley, of Binghamton, N. Y., to Dr. MacKinnon Ellis, son of Dr. and Mrs. William T. Ellis, of Swarthmore, June 18.

MISS ELIZABETH GRAY, daughter of Dr. and Mrs. Henry Wolf Gray, of Philadelphia, to Mr. Alfred J. Ostheimer, 3d, son of Dr. and Mrs. Maurice Ostheimer, of Whitford, June 30.

Miscellaneous

DR. J. ELMER PORTER and family, of Pottstown, are touring Europe.

DR. E. E. EDWARDS, of Taylor, is recovering from a recent illness.

DR. JAMES D. LEWIS has resigned as Director of Public Health of Scranton.

DR. ANNA L. LEVY, of Scranton, is spending several months studying in Europe.

Dr. and Mrs. C. Harold Kistler, of Ardmore, sailed on June 9 for several months' stay in Europe.

Dr. David Riesman, of Philadelphia, was recently made a Knight of the Order of the Crown of Italy.

Dr. and Mrs. George B. Kunkel, of Harrisburg, have returned from a six months' trip around the world.

Dr. and Mrs. J. R. Eisaman, Jr., of Greensburg, sailed recently from New York for several months abroad.

Dr. R. Tait McKenzie, of Philadelphia, sailed for Europe the first of July to attend the Olympic games in Holland.

Dr. and Mrs. Russell T. Wall and Dr. and Mrs. Byron H. Jackson, of Scranton, sailed recently for a tour of Europe.

Thomas Leinbach, the young son of Dr. and Mrs. H. M. Leinbach, of Reading, has recovered from an illness lasting four weeks.

Dr. S. D. Boucher, of Portage, spent the month of June in the Lying-in Hospital, New York, doing post-graduate work in obstetrics and gynecology.

The National Board of Medical Examiners announces the removal of its offices from 1600 Walnut St., Philadelphia, to the N. E. Corner of Fifteenth and Locust Streets.

Dr. Howard E. Twining, of Glenside, has returned from Vienna and opened offices in the Medical Arts Building, Philadelphia, for the practice of dermatology and syphilology.

Dr. S. Calvin Smith, of Philadelphia, was given the honorary degree of Doctor of Science at the seventy-eighth annual commencement of Bucknell University, Lewisburg, on June 6.

Miss Mary C. Lehman, daughter of Dr. and Mrs. Frank Lehman, of Bristol, was graduated from the Woman's Medical College on June 6. Dr. Lehman will serve her internship at the Lancaster General Hospital.

The new William B. and Adeline Hackenburg Maternity Building of the Jewish Hospital, Philadelphia, was dedicated on May 29. The new building, erected at a cost of $850,000, adjoins the administration building of the hospital group.

Dr. Alfred J. Buka, of Pittsburgh, having completed his graduate studies in orthopedic surgery at the University of Pennsylvania, is now visiting various European clinics. He is accompanied by his wife and daughter.

The new nurses' home and superintendent's residence of the Home for Consumptives of the Episcopal City Mission, at Stenton and Evergreen Avenues, Philadelphia, were dedicated on May 26. The buildings represent an outlay of $65,000.

Dr. Wilmer Krusen, of Philadelphia, has been appointed chairman of the executive committee of the Citizens Committee which is backing the $50,000,000 bond issue for improvement and enlargement of State-owned institutions for the unfortunate.

Plans for a campaign to raise a $150,000 fund for the erection of a new and larger building are being made by a committee of the Penn Treaty Hospital, Philadelphia. The hospital now occupies a remodeled structure at 820 East Girard Avenue.

More than 2,100 physicians of Vienna went on strike June 11. They are panel doctors for 227,000 members of the Federal Civil Service Institution for ill members. All of their potential clients have been demanding free radiologic and dispensary treatment.

Dr. Samuel L. Gittelson has been elected president of the Medical Board of Mount Sinai Hospital, Philadelphia. Other officers elected are: vice-president, Dr. Bernard Mann; secretary, Dr. Charles S. Hirsch; and chairman of the medical staff, Dr. Harry Lowenburg.

Dr. Maurice Seltzer, who is connected with the Philadelphia Hospital, Byberry, has qualified before the Civil Service Commission for appointment as junior physician, and Edna A. McBride, who is located at the same institution, as head hydrotherapist, Bureau of Hospitals.

At the annual meeting of the Easton Hospital Association, held on June 14 at the Nurses' Home, Dr. B. Rush Field was reëlected superintendent. Dr. Field, however, declined the election because he was in need of a rest and wanted to take up private work. The trustees reluctantly acceded to his request.

The Council on Medical Education and Hospitals of the American Medical Association has announced that the rating of the School of Medicine of Temple University, Philadelphia, has been raised to Class A. This endorsement of its standing should be especially gratifying to its many friends.

Mr. Charles Kurtzhalz has been engaged by the Delaware County Tuberculosis Association as its new executive secretary. For the past three years Mr. Kurtzhalz has been on the staff of the Philadelphia Health Council and Tuberculosis Committee in the capacity of educational secretary.

The members of the Allegheny County Medical Society held a subscription dinner in honor of Dr. Alfred E. Cohn, of New York City, on June 19, at the Pittsburgh Athletic Association. After the dinner, Dr. Cohn delivered an address under the auspices of the Heart Commission at Carnegie Lecture Hall.

Dr. J. Torrance Rugh, of Philadelphia, left the early part of this month for Newfoundland and Labrador to aid Sir Wilfred T. Grenfell in his medical work among the natives of that section. Dr. Rugh is the first orthopedic surgeon to visit those lands. His son, Torrance Rugh, teaches a school in one of the villages of Labrador.

The second annual exhibition of works in the plastic and graphic arts under the auspices of the New York Physicians Art Club opened at the New York Academy of Medicine on April 2 with a showing of about three hundred pieces in the whole collection. About eighty physicians exhibited their works, among them being Dr. Solis-Cohen, of Philadelphia.

On June 5, at the commencement exercises, Dr. Edmund B. Spaeth, of Philadelphia, received the medal of the University of Buffalo, awarded "for significant study of the eye or its diseases or some allied branch of surgery." The award was made for the doctor's contribution to the field of plastic surgery embodied in his book, *Ophthalmic Plastic Surgery.*

The Chester County Medical Society celebrated its centennial anniversary, May 15, in conjunction with the Chester County Historical Society, at the New Century Club. The speakers were Dr. William T. Sharpless, West Chester, Dr. Charles W. Burr, Philadelphia, and Charles W. Heathcote, Ph.D., West Chester, who gave an address on "Historic Chester County."

At the annual dinner of the Alumni Association of Jefferson Medical College, May 31, Dr. Willard H. Kinney, president of the Association, was toastmaster. Dr. John H. Gibbon represented the faculty among the speakers; Dr. Peter W. Tomlinson, Wilmington, Del., talked on "Fifty Years of Practice," and Dr. Harold L. Foss, Danville, on "Twenty Years of Progress in Medicine."

Two more members of the "Kistler Clan" of medical men received their degrees of doctor of medicine at the eightieth annual commencement of Hahnemann Medical College—William K., son of Dr. M. S. Kistler,

of Shenandoah, and Seth B., a cousin of William. They are the twenty-first and twenty-second Kistlers to be graduated in medicine. The first twenty are all practicing their profession in various parts of Pennsylvania.

At the annual meeting of the Philadelphia Laryngological Society, the following officers were elected for 1928-1929: president, Dr. Henry A. Laessle; vice-president, Dr. Gabriel Tucker; secretary, Dr. Herman B. Cohen; treasurer, Dr. Louis H. Clerf; librarian, Dr. Ross Hall Skillern. Dr. Ralph Butler was elected to serve on the Executive Committee for three years, and Dr. Ross Hall Skillern was elected to life membership in the Society.

The cornerstone of the new building of the Bryn Mawr Hospital was laid on May 28. The new buildings under construction include the administration building, which will contain operating rooms, laboratory and x-ray rooms, and one wing with 250 beds. Within the next few years it is believed that the second wing to the south, also accommodating 250 beds, will be completed. The two buildings will cost about $1,900,000, and the furniture and equipment about $300,000 additional.

Mrs. Lester L. Lessig, of Lansdowne, daughter of the late Dr. C. E. L. Keen, of Harrisburg, recently sent a check for $5,000 to the Polyclinic Hospital, Harrisburg, in memory of her father who was affiliated with the staff for many years as chief of the pediatric department. Mrs. Lessig has selected as a memorial a battery of three rooms, consisting of two modern, well-equipped delivery rooms and a communicating room which contains complete sterilizing equipment.

Dr. Joseph Edeiken, chief resident physician at Mount Sinai Hospital, Philadelphia, has received a fellowship which will enable him to spend a year in Vienna continuing his medical studies. Dr. Charles Charney, of Philadelphia, has been appointed to succeed Dr. Edeiken as chief resident physician for two years and will receive the fellowship the third year. The fellowship fund, obtained by subscriptions of the trustees, was awarded Dr. Edeiken in recognition of his meritorious services.

A trust fund for the support of biologic research at the Wistar Institute of Anatomy, Philadelphia, has been created by Mrs. Carlos F. MacDonald, wife of a noted New York psychiatrist and alienist who died May 29, 1926. The fund will be devoted especially to neurology, which is the institute's chief problem, and to the publication of neurologic research results. The institute is planning to acquire a farm for the express purpose of providing "pure food and water" for the thousands of white rats reared by it for experiments.

The annual assembly of the Inter-State Post Graduate Medical Association of North America will be held at Atlanta, Georgia, October 15-19, 1928. All medical men in good standing are privileged to register and are cordially invited to attend. Dr. George W. Crile, chairman of the program committee, has arranged an exceedingly attractive program, on which eighty-two renowned clinicians and teachers from all sections of the United States and Canada, and from several European countries, have definitely accepted places.

For the first time on record in Philadelphia, two institutions doing practically the same work in the same field have been merged under the auspices of a federation of charities. The maternity division of Mt. Sinai Hospital has absorbed the work of the Jewish Maternity Hospital, 532 Spruce Street, whose doors are closed, and whose patients have been directed to Mt. Sinai. Provisions for greatly expanded maternity care in the new Mt. Sinai Hospital building, under construction, have been planned. The structure is to cost about $1,500,000.

At a recent business meeting of the Philadelphia County Medical Society, it was ordered by resolution that the names of those contributing one thousand dollars or more to the Society be inscribed upon suitable tablets to be erected in the auditorium of the Society building. Those who contribute from one to five thousand dollars shall be designated as Donors; those who contribute from five to fifty thousand dollars shall be designated as Benefactors; and those who contribute upwards of fifty thousand dollars shall be designated as Eminent Benefactors.

Clinics and demonstrations were held for the alumni of the University of Pennsylvania School of Medicine, June 15-16, at the Philadelphia General Hospital, the Medical School, the University Hospital, the medical laboratories, the Presbyterian Hospital, the new graduate hospital of the University, and the Laboratory of Hygiene. At a buffet supper and smoker, silver cups were awarded to the class having the most members present, to the oldest alumnus present, and to the alumnus who came the greatest distance. A trip to Valley Forge was also provided for all who wished to go following the general alumni celebration.

The meeting of the Third Councilor District will be held on Wednesday, August 1, at the Irem Temple Country Club, Dallas (Wilkes-Barre), Pa. The program will consist of short interesting addresses by prominent speakers, beginning at 11 a. m. Eastern standard time, and lunch will be served at 1 o'clock. The afternoon will be devoted to golf, tennis, trap-shooting, and cards. The members of the Councilor District will be notified by letter and return postal card, as reservation for luncheon must be made three or four days in advance. Any of the members who wish to remain for dinner may make arrangements at the Club earlier in the afternoon.

A testimonial dinner was given May 26, at the Hotel Chelsea, Atlantic City, to Dr. Henry O. Reik, executive secretary of the Medical Society of New Jersey and secretary of the Tristate Medical Conference, upon his sixtieth birthday. Dr. Arthur C. Morgan, president of the Medical Society of the State of Pennsylvania, was toastmaster. The formal speakers were Dr. Philip Marvel, Atlantic City, Dr. Seth A. Brumm, Philadelphia, Dr. James E. Sadlier, ex-president of the Medical Society of New York, Dr. J. Benner Morrison, secretary of the Medical Society of New Jersey, and Dr. Frank C. Hammond, editor of the Atlantic Medical Journal. Dr. Reik was presented with a set of shirt studs, sleeve links, and vest buttons.

The second International Conference on Light and Heat in Medicine, Surgery, and Public Health will be held in London, October 29 to November 1. A large number of prominent medical men and scientific authorities will take part in the sessions, visits will be made to representative clinics, and an exhibition of the most modern apparatus and accessories for ultraviolet, radiant heat, and kindred forms of therapy will be run concurrently in the Great Hall of the University of London, South Kensington, where the conference will be held. Special attention will be paid to the subject of vitamins. The conference and exhibition are being organized by the *British Journal of Actinotherapy*, 17 Featherstone Buildings, High Holborn, W. C. L., which will be glad to forward further information upon request.

Bryn Mawr Hospital is including in its new building plan a Medical Records Training Class, which will provide a new field of vocational training for women. There is no tuition fee and the duration of the course is six months. The service rendered is accepted as equivalent of training given. The requirements are: an educational background somewhat above the average, a serious interest in human welfare, and a genuine desire to be of service. The advantages are: a course of intensive training, enabling the student to handle a record room or other hospital administrative position in a much shorter space of time; actual participation

(Continued on page xviii.)

5 Good Reasons

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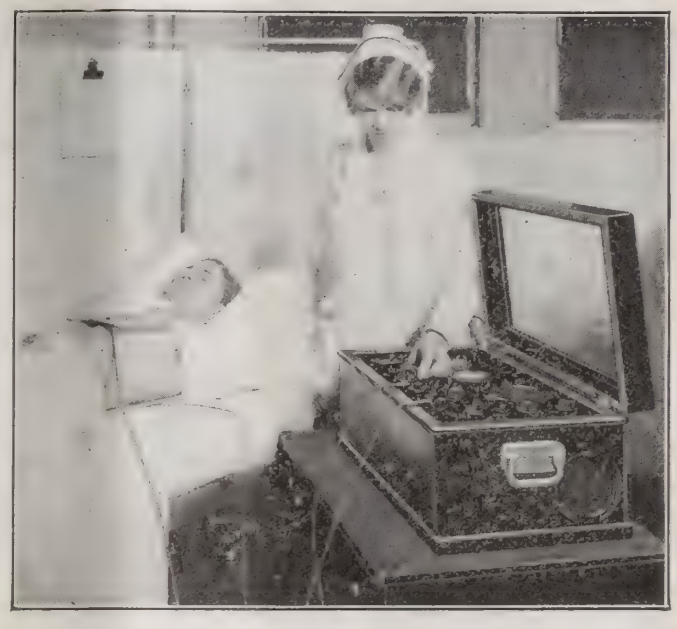

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MEDICAL NEWS

(Continued from page 790.)

in hospital routine as a working assistant during certain hours each day, taking each clinic in turn; and opportunity to attend lectures of a standard training school for nurses. Interviews may be had by appointment. Address Frances Benson, Medical Records Dept., Bryn Mawr Hospital, Bryn Mawr, Pa.

ANNOUNCEMENT THAT THE University of Pennsylvania has received from Edward B. Robinette, an alumnus and prominent banker in Philadelphia, a proposal to establish a foundation that, according to the founder's plans, may eventually have a capital of at least $1,000,000 and that is to receive immediately $250,000 of that sum, was made Friday, June 21, by Provost Josiah H. Penniman. In carrying out this plan, the first $250,000 which is to be given at once by Mr. Robinette will be used by the Foundation for the establishment of a clinic for the study, treatment, and prevention of diseases of the heart and circulatory system. In particular, it is the donor's desire that an agency for treatment of patients at the clinic should become operative at once and that the clinic staff should immediately direct its efforts toward the ultimate prevention of such diseases. The sum of $250,000 more is to be added to the resources of the clinic as needed, and the donor has further informed the University that he hopes to present, in due time, at least $500,000 more to the Foundation for the development of education in the liberal arts.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

THE SURGICAL CLINICS OF NORTH AMERICA. Volume 8, number 2 (New York Number—April, 1928). 256 pages with 90 illustrations. Per Clinic year, paper, $12; cloth, $16. Philadelphia and London: W. B. Saunders Company.

The April number contains a total of nineteen articles dealing with various phases of general and traumatic surgery—the contributions of eighteen authors. They are all practical and well illustrated. Of special interest is the article on "Arthritis of the Knee Joint," by Moorhead. To review each article would be an endless and needless task, and much more than space would permit. An edition of the *Surgical Clinics of North America* usually refreshes one's mind on surgery.

GONOCOCCAL URETHRITIS in the Male. For Practitioners. By P. S. Pelouze, M.D., Associate in Urology and Assistant Genito-Urinary Surgeon at the University of Pennsylvania. Octavo volume of 357 pages, illustrated. Cloth, $5. Philadelphia and London: W. B. Saunders Company, 1928.

The chapter on "The Gonococcus and Its Peculiarities" is well worth reading. The author has demonstrated that cultures of the gonococcus may be made as easily as other laboratory cultures. He has also shown that they will survive on ice for twenty-four hours, and at a temperature of 115° F. for thirty minutes. These facts are not generally known by the profession.

There is enough that is new in this work to make a good original article, but when it is expanded into a book of 347 pages, the result is naturally disappointing. The expectations aroused by the preface and introduction are hardly realized by the subsequent recital of facts pointed out over thirty years ago by Finger and Ghon. The author states that "there is little need of

(Concluded on page xx.)

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BOOK REVIEWS

(Concluded from page xviii.)

posterior urethral involvement in more than 15 per cent of those patients seen during the first four days of the infection." Whatever he may mean by this, most competent urologists see more than this percentage.

In general, the author's style is prolix and sententious; the subject matter trite and commonplace. From a clinical standpoint he has added little to our existing knowledge of the modern treatment of the disease.

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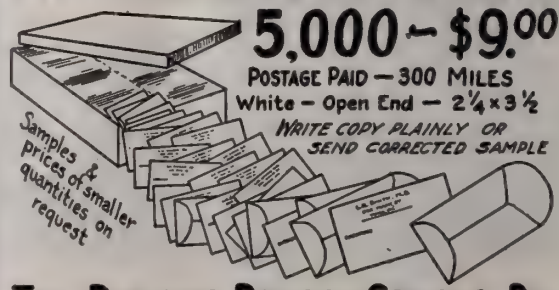

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Symposium On Gonococcic Infection and Its Complications*

THE STATUS OF THE TREATMENT OF GONORRHEA

GEORGE A. HOLLIDAY, M.D.
PITTSBURGH, PA.

In discussing the status of the treatment of gonorrhea, we are concerned particularly with the management of the acute stage of the disease. If the infection is thoroughly treated from its first appearance, its course usually extends over a few weeks only and does not become chronic. An occasional hyperacute case will resist all efforts at control and be prolonged in its course.

The diagnosis should always be made by the microscopic findings, occasionally to be confirmed by culture. Nonspecific infection may be made worse by the use of the measures indicated in gonorrhea. The cause must be definitely known so that the proper therapy may be selected. As the disease progresses the presence or absence of the gonococcus will determine the method of treatment and the adoption of the most appropriate measures.

There is no chemotherapeutic or specific remedy with which to combat the gonococcus. The therapeutic measures found empirically to relieve the subjective symptoms and to hinder the progress of the infection must be carried out with a nicety of technic or harm may be done and the infection made worse. Measures applicable to one stage—acute or chronic—may be contraindicated at another time. A therapy appropriate to the management of the acute progressive stage, of the complications incident to extension beyond the urethra, of the chronic stage with the gonococcus present, and of the healing of the resultant lesions must be suitably selected.

The gonococcus and its toxins may spread to the blood and lymph streams, and give rise to systemic intoxication and fever and to metastatic involvement of other parts of the body. Gonorrhea is not always merely a local infection of the genito-urinary tract. The symptoms are dependent upon the severity of involvement of the several parts of the tract. Acute symptoms are usually referable to one part only. When the posterior urethra is involved, the discharge from the anterior urethra usually lessens; if the prostate is abscessed or the epididymis acutely involved, the posterior urethritis abates and the urine may be clear. Therapy should be directed at all times more particularly to the part producing the acute symptoms.

Oral medication, of itself, is not to be relied upon to cure a gonococcus infection. The balsams and oleoresins produce gastric and renal irritation. Their astringent action may lessen the discharge in some cases, but they have no bactericidal action. They are best used as an adjuvant to local treatment in the hyperacute cases, and not as routine remedies in all cases. Diuretics are of value only in that they effect good drainage and mechanical cleansing of the canal. Sedative drugs relieve the irritability of the urethra and bladder and allay spasm and sexual excitement. Belladonna allays spasm and in acute posterior urethritis and during the course of prostatic massage aids in preventing further extension of the infection, particularly to the epididymis. There is no urinary antiseptic which is of any value during the acute stage. Urotropin is irritating to the mucous membrane in the acute stage, but in the chronic stage, when instrumental treatment is being carried out, its administration is indicated to prevent complications.

During the incubation period the gonococcus travels rapidly along the mucous membrane and penetrates beneath the epithelial cells, involving the subepithelial tissues and any of the lacunæ or ducts. Disintegrating cocci set free their endotoxins, and inflammation results. The surface epithelial cells swell, loosen, and are shed.

Local treatment to the affected parts is the indicated procedure. The object is to bring about the destruction of the gonococcus without dam-

* Read before the Section on Urology of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 5, 1927.

age to the urethral mucosa. There is no antiseptic known which is toxic to the gonococcus, nonirritating to the urethral mucosa, able to penetrate living tissues, and will not coagulate albumin. Such a remedy would be ideal, but none has been found which possesses all these qualifications. The methods now employed are only partly efficient, but their judicious use (often alternating or combining them) will favorably influence the infection by relieving the subjective symptoms, reducing their severity, and effecting drainage. The action is partly mechanical, partly bactericidal, and the mild hyperemia set up assists the curative process. Cure is not brought about by the direct bactericidal action of the drugs used. The aim is to assist the tissues in their effort to expel the gonococcus, to secure free drainage, and prevent further spread.

The results attained by the use of injections, irrigations, and instillations are dependent more upon the nicety of technic of administration and dosage than upon the selection of the several remedies empirically indicated. Local treatment should begin with the first sign of the infection. In a large percentage of cases this will prevent further extension and the complications incident thereto. Never wait for the appearance of a free discharge or the cessation of hyperacute symptoms. These manifestations can best be controlled by appropriate local therapy.

Warm irrigations with weak antiseptic solutions are indicated from the first. The irrigation may be of the anterior urethra only, or be made a total bladder lavage to act as a preventive to posterior urethral extension. If the posterior urethra becomes involved, then total lavage is indicated. Injections and instillations of stronger solutions of the selected remedies are also used. The patient can carry out a routine treatment by injection of the anterior urethra. Instillation into the posterior urethra is the best means of alleviating the acute symptoms incident to its involvement. The greatest relief that can be secured in the hyperacute case with frequency, terminal hematuria, and tenesmus is obtained by instillation of a solution of silver nitrate. In protracted posterior urethritis resistant to the milder remedies, this will produce a prompt cessation of the discharge. Opiates and belladonna may be used to lessen the tenesmus which may favor the occurrence of an epididymitis from the reaction set up. In the less acute cases an instillation of silvol or argyrol following lavage with a warm, mild antiseptic solution or with plain sterile water, affords relief. As the acute symptoms and free discharge lessen, stronger remedies should be substituted, and protargol is a drug of choice.

In the acute stage, no drug should be used in such strength that it is irritating—producing pain, frequency, and tenesmus. The patient must feel no discomfort, and no reaction should be apparent. Otherwise the remedy is not a proper selection, or it is used in too concentrated a form.

It is not proper to relieve a patient from the distressing symptom—discharge—by the use of astringent remedies. The discharge is lessened but the gonococci persist, and upon the cessation of treatment this symptom recurs. As the symptoms subside and the microscopic examination shows the discharge mucoid and gonococci absent, irrigation with silver-nitrate solution will by its stimulating action bring forth gonococci dormant in the tissues or by its astringent action promote healing. It is the remedy *par excellence* as an astringent in the healing stage, and seldom is any other drug of this kind needed.

Recently it has become a common practice to massage the prostate during acute posterior urethritis. Massage at such times cannot do other than invite infection of the prostate where it has not occurred, and may produce serious damage or abscess formation. Massage must never be done until the urethritis has subsided and the urine is clear. It is still better to continue instillations into the posterior urethra for some time after the urine has cleared before an examination of the prostatic secretion is made. Such conservative management will lessen the number of cases of chronic gonorrheal prostatitis. Prostatitis is not a necessary sequel to posterior urethritis. The prostate may be palpated during acute urethritis to determine its condition, but no pressure should be made upon it. Furthermore, extension to the seminal vesicles and epididymis is favored. Massage should never give rise to severe pain, frequency, or urgency of urination. It should be done gently, followed by a warm antiseptic lavage and instillation. For the same reasons stripping of the vesicles is to be avoided. After a posterior urethritis the secretions from these two structures must be examined microscopically to determine the cure.

Sounds and dilators appropriate in the treatment of infiltrations and strictured areas are not indicated in the course of acute infection. Their use is productive of harm by spreading the infection and carrying it to the posterior parts. It is a good rule to avoid these instruments so long as the gonococcus is present.

Operative surgery is seldom called for in the treatment of acute gonorrhea. Lancing of follicular abscesses along the urethra is indicated to prevent spontaneous rupture into the tissues.

Acute prostatic abscess necessitates catheterization and alleviation of pain by opiates and heat. Such abscesses commonly rupture into the urethra, and immediate relief occurs. Should evidence indicate that the abscess points elsewhere, perineal section is called for. The surgical convalescence is often longer than nature's course and is attended by greater dangers. In acute epididymitis the pain should be allayed by heat, diathermy, intravenous injections of sodium iodid, or protein injections. Epididymotomy, in the vast majority of cases, has nothing to recommend it except the immediate relief from pain. When strangulation and consequent atrophy of the testis is imminent on account of the size and persistence of inflammation, epididymotomy is indicated, but it should not be a routine treatment. It does not shorten convalescence, leaves a mutilating scar adherent to the epididymis, and does not prevent sterility.

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GONORRHEAL ARTHRITIS IN THE ADULT MALE

Treatment by Injection of the Seminal Vesicles

THOMAS C. STELLWAGEN, M.D., and JAMES F. McCAHEY, M.D.
PHILADELPHIA, PA.

The treatment of gonorrheal arthritis by means of the injection of Pregl's solution directly into the seminal vesicles through the rectal mucosa was first described by Stellwagen in 1925. The method is as follows:

Just before the injection the lower bowel is cleansed by means of a copious enema followed by a rectal washing with four quarts of boric-acid solution.

A 5 c.c. carpule syringe is used. The carpule is filled with Pregl's solution, and the needle is fitted directly to the syringe containing the filled carpule. The patient is placed in the knee-chest position. The finger is gently passed through the anal sphincter and the vesicles outlined. The point of the needle is then guided by the index finger of the right hand of the operator and gently passed into the rectum. It is carried forward to a point over the vesicle to be injected and the point of the needle plunged through the rectal wall into the vesicle. The solution is injected slowly until about 2 c.c. has been used. The needle is then withdrawn and the solution kept flowing to sterilize the needle tract. The opposite vesicle is then injected.

Certain precautions must be observed. It is important first to outline the vesicle before the needle is introduced. The point of the needle should not be plunged in too deep, as there is danger of injuring the bladder wall or the posterior urethra. This may cause hematuria or pain. If the vesicle is injected high up, there is danger of delivering trauma to the peritoneum covering this portion of the vesicle.

The following brief abstracts of case reports illustrating the results obtained by means of the injections are taken from an article by the authors in the *Journal of Urology* for July, 1927. The case histories with progress notes are given in detail in that article.

Case 1.—This patient was seen two days after the onset of arthritis. The dorsal aspect of his right hand and wrist was acutely inflamed and painful; there was pain at the point of insertion of the internal hamstring tendons of the right knee. Gonococci were found in the urethral discharge. On rectal examination, heat was noted over the right seminal vesicle. The temperature was slight, being over 100° on one day only. The seminal vesicles were injected eight times at intervals of four days, and the patient was discharged from the hospital in six weeks free of symptoms of arthritis.

Case 2.—The patient was seen twenty-one days after the onset of the arthritis. The left wrist and right ankle were acutely inflamed. Gonococci were found in the urethral discharge. On rectal examination both vesicles were found to be hot and tender. The temperature was not over 100° at any time. The seminal vesicles were injected eight times at intervals of four days, and the patient was discharged from the hospital in six weeks free of symptoms of arthritis.

Case 3.—The patient was seen sixteen days after the onset of the arthritis. The left hand and wrist were very markedly inflamed. The wrist was fixed and helpless. Gonococci were found in the urethral discharge. On rectal examination both vesicles were found to be hot, tender, and boggy, denoting an acute inflammatory condition of the vesicles and perivesicular tissues. The temperature was 101° for the first six days of his stay in the hospital. The seminal vesicles were injected four times at intervals of four days. At the end of this time all signs of acute inflammation of the left wrist had subsided, but the joint was slightly swollen and there was restriction of extension and flexion. The patient insisted on leaving the hospital. He was next seen one year later, at which time the wrist was practically normal clinically. There was some peri-articular thickening and some limitation of motion, but no pain on motion.

Case 5.—The patient was seen sixty days after the onset of the arthritis. The left knee and ankle were slightly swollen and somewhat painful on motion. Gonococci were present in the urethral discharge. On rectal examination, both vesicles were found to be palpable and tender. This patient was given one injection into the vesicles. The arthritis improved. Subsequent treatment consisted of massage. The joints returned to normal.

Case 6.—The patient was seen seventy-six days after onset of the arthritis. The left knee was slightly swollen and painful on motion. The x-ray showed thickening of the soft parts and demineralization of the

bones of the knee. Gonococci were present in the urethral discharge. Both vesicles were palpable and tender. The seminal vesicles were injected once weekly for eight consecutive weeks. The knee returned practically to normal.

Case 7.—The patient was seen one year after onset of arthritis. There was pain and slight swelling of the right ankle. The x-ray revealed marked demineralization of the bones. Gonococci were not found in the urethral discharge. The vesicles were injected twice weekly for three consecutive weeks. The pain in the ankle decreased considerably. Subsequent treatment consisted of massage of the prostate and vesicles. After six months the x-ray showed increased line density of the bones as compared with previous films. There was, however, considerable disability; the ankle felt sore and painful after the patient finished his day's work.

In the following three cases the patients developed arthritis after the urethral discharge had stopped.

Case 12.—Thirty-six days after the urethral discharge stopped, the patient developed pain in his right shoulder. The urine was normal. The right seminal vesicle was palpable and tender. Three intravesicular injections were given which relieved the arthritis.

Case 13.—Two years after acute urethritis, the patient developed pain and swelling of his right ankle. The x-ray showed hypertrophic change of the lower and right tibia. The urine was normal. Both seminal vesicles were palpable and tender. Arthritic symptoms were relieved to a considerable degree after four injections.

Case 14.—Five years after an attack of acute urethritis, the patient developed pain and swelling of both knees and the left ankle. The x-ray showed slight thickening on the undersurface of both patellas and a spur on each os calcis. The urine was normal. Both vesicles were palpable and tender. Arthritic symptoms were relieved by five injections, followed by a course of massage.

Indications for Injection of the Seminal Vesicles

We believe that the injections are particularly indicated in cases of acute arthritis which are dependent upon acutely inflamed seminal vesicles. We also believe that the injections should be given as soon as the diagnosis of the focus in the vesicles is established, and that the sooner they are resorted to, the better are the chances of stopping the arthritic process. However, after the injections are discontinued, it is necessary to employ massage to rid the vesicles of their débris and to favor a return of the vesicles to normal.

In cases of chronic arthritis which are apparently dependent upon chronically infected vesicles, it is questionable whether or not the injections are superior to massage. They are useful in relieving symptoms, and must be followed by massage.

Untoward Results

In some cases the injections are followed by bloody emissions. The patients rarely complain of dysuria following the injections. Epididymitis occurred in two of the fourteen cases.

The vesicles do not appear to be damaged by the injections. In many of the cases in which treatment was carried out by this method living spermatozoa were found in the secretions obtained after massage.

220 South Sixteenth Street.

THE TREATMENT OF URETHRAL STRICTURE, PROSTATITIS, AND SEMINAL VESICULITIS

PETER P. MAYOCK, M.D.
WILKES-BARRE, PA.

The term urethral stricture as applied herein will be limited to strictures of inflammatory origin, and these remarks will be confined to the indications for treatment, omitting detail.

All strictures, regardless of their location, when recent and soft, are best treated by dilatation. After the round-cell infiltration has become converted into connective tissue and is contracted and dense, the results obtained by dilatation are variable; yet the rule that most strictures are amenable to this treatment still prevails if the coöperation of the patient can be obtained, for dilatation, by causing an increased vascularization and absorption of the connective tissue, more closely approaches the objective, viz., restoration to normal.

The armamentarium should consist of a complete line of filiforms, followers, bougies, sounds, and dilators, and the keenest judgment must be exercised to obtain the best results. Each case should be individualized, and the proper instrument selected and used with the greatest care. Gentleness in urethral instrumentation cannot be overemphasized, and the proper selection of time for subsequent dilatation is also a matter of great importance. Stricture of the deep urethra should not be treated by metal instruments smaller than 15 F except by experienced operators who have developed the sixth sense in urethral instrumentation. Tight, dense strictures of the pendulous urethra are frequently not amenable to dilatation, and usually must be cut to be cured. Strictures of the bulb, when not complicated by retention or peri-urethritis, are usually controlled by dilatation. They are very prone to recontract and, whether treated by dilatation or external urethrotomy, a proper follow-up course should be outlined to the patient.

To summarize: dilate strictures when possible and cut them when necessary. Internal urethrotomy is indicated for the pendulous urethra, while external urethrotomy, excision, or resection is the procedure for the bulbomembranous stricture. Scar tissue, whether dilated or cut, is prone to contract, and a prognosis that entails an ample follow-up procedure will insure the best results.

Most observers who have studied the progress of gonorrheal urethritis in the male agree that the posterior urethra is involved in the majority of cases, and when implicated, prostatitis and seminal vesiculitis are very frequent complications. In fact, it is this complicating infection of the prostate and vesicles that makes the case a protracted one calling for the most skillful medical care and the utmost coöperation of the patient.

The choice of drugs or methods is a matter to be decided by the individual physician observing the progress of the case, for since there is no specific remedy the problem is not so much what to use but how to use to obtain the best results. The old conception of destroying the gonococci in the urethra with a potent gonococcide, as can be demonstrated *in vitro,* has happily been abandoned. The newer remedies hailed as nonirritating, penetrating, powerful antiseptics very destructive to the gonococcus have been a disappointment. Preserving an intact mucous membrane and building up the patient's resistance should be the aim. If an unusual number of complications are experienced among acute cases, we should analyze our methods, for oft-times therapeutic heroism runs rampant.

Acute or subacute infections or exacerbations will not be considered in this discussion, for the acutely or subacutely inflamed posterior urethra or prostate shows early and lasting resentment to ill-timed instrumentation or medication.

The majority of cases of prostatitis and seminal vesiculitis respond in a reasonable length of time to properly managed irrigations, instillations, massage, and dilatation. Potassium permanganate, silver nitrate, the silver albuminates, and oxycyanid of mercury are my favorite antiseptics. Skillful massage is a valuable procedure productive of beneficial results when indicated. It empties the prostate and vesicles of their retained secretions, improves the circulation, strengthens the relaxed muscular fibers and improves their tone, and causes absorption of the inflammatory products. Distending the bladder before massage with an antiseptic solution makes the procedure easier for the operator, cleanses the urethra, washes away or renders innocuous any infectious material which may be expressed, and lessens the tendency to epididymitis. When the accompanying posterior urethritis fails to respond to irrigations, instillations may be resorted to and, when necessary, endoscopic examinations and topical applications should be used. If the posterior urethritis has been of long duration, a submucous infiltration frequently exists, and dilatation should give results, for it improves the circulation, causes absorption of the infiltration, and opens up the tubules and ducts, thereby giving better drainage to the prostate and vesicles.

Endoscopic examination is indispensable in treating the intractable case. The condition of the mucous membrane, the colliculus, and the orifices of the ejaculatory ducts should be noted, the presence or absence of granular patches, cysts, and polyps ascertained, and appropriate treatment instituted. Topical applications of silver nitrate and other suitable remedies, fulguration, catheterization of the ejaculatory ducts, and injection of suitable medication into the vesicles are the commonly employed endoscopic therapeutic procedures. Luys, Young, and Waters sponsored the latter procedure, and recently Delzell and Lowsley advocated, in the treatment of intractable cases of seminal vesiculitis, injection of a 10-per-cent argyrol solution through the ejaculatory ducts. This procedure, they say, is an easy method and one that improves drainage by dilating the ducts. Many observers disagree, saying the method is not simple, that it fails to distend the vesicles fully, and that undue traumatism and epididymitis are frequent complications.

Vasopuncture, a technical modification by Thomas of Belfield's vasotomy, has been rather generally adopted as the method of choice in treating the cases of vesiculitis which fail to respond to the well-recognized procedures; in fact, in many cases this method has obviated the major surgical operation of vesiculotomy and vesiculectomy as advocated by Fuller. Pyovesiculitis and perivesiculitis are now the only indications for a radical surgical procedure, and then an effort should be made to remove the vesicle as completely as possible.

It is believed by many observers that so long as gonorrhea remains localized upon the genital and urinary mucous membrane it excites no systemic reaction and is consequently uninfluenced by vaccine or serum therapy. When fever or symptoms suggestive of systemic involvement occur, the most rational indication for vaccine therapy is found. On the theory that they promote tissue reaction and stimulate the formation of antibodies and other immune substances, I have been using large doses of mixed Neisser

stock vaccines and foreign-protein therapy in the form of lactalbumin given intradermally and intramuscularly in all complicated cases of gonorrhea, whether acute or chronic.

In conclusion, the importance of the rôle played by prostatic and vesicular involvement in urethral infections cannot be overemphasized, and while the advent of a therapia sterilizans magna is still awaited, an attempt has been made to show indications for and evaluation of some of the best-known and most rational procedures.

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43 South Washington Street.

MALE STERILITY

WILLIAM H. MACKINNEY, M.D.
PHILADELPHIA, PA.

This paper is based upon the study of 162 patients, male partners in sterile marriages. All of the obvious causes of male sterility, such as impotence resulting from congenital defects in development, or that from defective innervation, are not to be found in this group of cases, and for that reason this study might be properly entitled "Unsuspected Male Sterility," for in practically every case (150 of a total of 162) the examination to determine the cause of the barren marriage was initiated by the wife, who first consulted her physician because of her failure to conceive. The period elapsing between the date of marriage and the date of examination varied from three months to eight years.

In this class of patients the essentials to virility are: (1) The production of spermatozoa in the spermatogenic portion of the testicle. (2) The proper conduction of the sperm through the various components of the genital tract to be finally deposited in the vaginal culdesac. (3) The normal dilution and admixture of the various secretions which go to make up the seminal fluid at the moment of ejaculation.

In analyzing these 162 cases we find that in 86 there was no evidence of trouble, the semen containing an uncountable number of actively motile spermatozoa in each case. In the remaining 76 cases, definite pathology existed which may be studied and classified as a positive or contributory cause of the sterile marriage. The study of patients of this class should include all of the various examinations usually made in a general medical case, but time can always be saved by first examining a condom specimen of the ejaculate, and when any definite abnormality exists in the number or morphology of the spermatozoa, a complete physical examination should be undertaken. It is well to examine at least two specimens of semen in all cases showing any abnormality before giving an opinion.

An analysis of the 74 cases in which abnormalities in the semen were detected include the following: complete azoöspermia, 42 cases; abnormality in number and morphology, 34 cases. In all, a careful history was elicited, and a general physical examination and detailed examination of the genital apparatus was made to determine the cause of the abnormality of the semen. The complete absence of spermatozoa depends either upon defective spermatogenesis or complete obstruction of some part or parts of the epididymi, vasi deferentis, ejaculatory ducts, or urethra. Defective spermatogenesis depends upon a variety of constitutional or local conditions, and in a number of cases all examinations fail to establish a definite cause for the failure of the apparently healthy testicle to function. Defective conduction in almost every case depends upon an antecedent inflammatory condition, almost invariably a gonorrheal infection, which in the process of repair occludes the lumen of the delicate epididymi or ejaculatory ducts, and effectively prevents the passage of the spermatozoa.

Of the 42 cases of complete azoöspermia, 24 were of the obstructive type. In 15 of them the obstruction existed in the epididymi, while in 3 cases the evidence pointed to an obstruction in the ejaculatory ducts. Defective spermatogenesis and defective conduction cannot always be certainly differentiated, and no doubt faulty conduction has existed in some cases where the azoöspermia has been attributed to defective spermatogenesis. It is very probable that certain obstructions in the epididymi cannot be detected by any known means of examination. The patency of the vas may be determined by vasopuncture and the injection of dye, noting its subsequent appearance in the urine, and the ejaculatory ducts allow of catheterization and injection in about 60 per cent of cases. Vesiculograms are of some value.

In 34 cases, spermatozoa appeared in the ejaculate in much diminished numbers, constituting an oligospermia. It is this type of case which is of the greatest interest and in which the greatest amount of care must be exercised in giving an opinion. Oligospermia results from a number of conditions, constitutional and local, and treatment based upon a careful diagnosis will at times succeed in increasing the number of sperm and their motility, thereby enhancing the possibility of conception.

In all cases of oligospermia there are invariably alterations in the morphology and physical

properties of the sperm. Oligospermia is always a relative term and simply denotes that the number of sperm in the ejaculate are reduced. A pure oligospermia is unusual and is generally associated with changes in shape, size, and motility of the sperm. Various degrees of necrospermia are frequently encountered, but I have yet to see a pure case of necrospermia, that is, spermatozoa possessing all their normal properties except motility.

Oligospermia, apparently, rarely occurs as a manifestation of defective spermatogenesis, only 4 of the 34 cases being in this group. Two cases of diabetes mellitus were discovered in the routine examination of the urine, and were assigned as probable causes of the oligospermia. Two cases of latent syphilis were detected as possible causes of oligospermia. Of the remaining 28 cases, it is probable that various inflammatory conditions of the genital tract played an important part in decreasing the number of spermatozoa. Chronic prostatitis and chronic seminal vesiculitis are frequently associated with strictures of the ejaculatory ducts, and diminish the amount of testicular secretion included in the ejaculate. Correction of these troubles by suitable treatment is frequently followed by an increase in the number and motility of the spermatozoa, thus facilitating conception.

The presence of pus in the ejaculate has been commonly regarded as interfering with the normal motility of the sperm. While it is possible that the hydrogen-ion content of the semen may be altered by the presence of pus and the biologic activity of certain organisms, I believe that, in the large majority of cases, pus *per se* has little effect on the motility or number of spermatozoa and that diminished conduction plays the important rôle.

The treatment of male sterility is a complex and often a hopeless problem. In complete spermatogenic azoöspermia dependent upon atrophy of the testicles from mumps, injury, or abnormalities in development, nothing can be done. In spermatogenic azoöspermia there is a fairly large proportion of cases in which no abnormality in the development of the testicle is noted and yet it apparently does not function. I have seen 15 such cases and know of no treatment which is successful in restoring this function.

In obstructive azoöspermia, surgical treatment has been recommended by Martin, Hagner, Lespinasse, and others. Operation is applicable when the site of the obstruction is in the epididymis and consists in a vaso-epididymostomy. In a small proportion of cases this operation and its modifications have been reported as successful, and it may be recommended in selected cases, for the condition can be made no worse.

In oligospermia with defective morphology, much may be accomplished by treatment. There are unquestionably a few cases of essential faulty spermatogenesis, but the vast majority depend, I believe, upon inflammatory changes which impede the proper egress of spermatozoa from the testicle to the urinary meatus at the moment of ejaculation. Inflammatory processes in the vesicles and prostate and strictures of the ejaculatory ducts and urethra are all remediable diseases, and their proper treatment will often bring about considerable improvement in the type and number of the spermatozoa and increase measurably the possibility of conception.

To summarize the salient features: (1) Marital sterility is a problem demanding the careful examination of both parties. (2) No treatment of the female for sterility *per se* should be instituted without an examination of the husband. (3) Sterile marriages are dependent upon the male in about 45 per cent of cases. (4) Treatment of spermatogenic azoöspermia is without avail, and the operative treatment of obstructive azoöspermia is recommended but with little hope of success. (5) Oligospermia is dependent chiefly upon chronic inflammatory disease of the genital adnexa, and treatment of these conditions is frequently followed by an increase in the number and motility of the sperm, thereby facilitating conception.

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ABSTRACT OF DISCUSSION

Of Symposium on Gonococcic Infection

Carl C. Yount, M.D. (Pittsburgh, Pa.): The unsatisfactory results from surgical treatment of gonorrheal arthritis have led to a different method of attack. My present conception is that the pathology in this disease is merely a focal infection caused by a local genito-urinary infection, and that progress in direct treatment of the joint cannot be made until the local condition has been cleared up by the urologist. Consequently, early attempts at drainage, active movement, and other vigorous measures, such as injections, flushing, etc., directed at the joint infection, are of little avail if the original focus is still active. It seems best, therefore, to adopt a passive treatment consisting merely in putting the joint at absolute rest so that there is no pain and muscle spasm. An ordinary splint will not do. In order to relieve the pain and to prevent the damaging influence of movement and muscle spasm, it is necessary to immobilize the affected joint and the two adjacent joints in a very carefully made plaster cast. The cast should not be left on solid, but should be split and arranged so that the joint can be observed. In the meantime, of course, the main part of the treatment is being carried out by the urologist.

Certain cases will go on to very marked ballooning of the joint, excessive fluid, pus, and abundant detritus.

In those showing marked ballooning, aspiration should be done to determine whether or not the joint contains so much detritus that it cannot be taken care of without drainage. If there is evidence of very thick inspissated pus in the joint, it should be drained, flushed, immediately closed, and put back in the cast.

In 1921, Collins of New York reported the use of practically this same line of treatment in gonorrheal arthritis, with very good results. I have treated four joints in the past three years and obtained excellent functional results with this passive and inactive method. To become enthusiastic about active focal treatment in an infected joint of gonorrheal origin would be as unwise as to attempt active treatment in a low-grade infectious arthritis from tonsillitis without first taking care of the infected tonsils.

The second stage of treatment begins after all joint thickening has disappeared and the joint is painless. Active and passive movements should be started, but forced only to the point where pain begins. These movements should be preceded by diathermy, baking, and massage. Functional use should be started as soon as a fair range of painless motion has been obtained. Treatment or functional use to a degree which causes pain is harmful. Braces to limit movement to the range which is painless are necessary in many cases. Forced manipulation under anesthesia is seldom successful except to obtain slight movement in long-standing cases with fibrous ankylosis. Arthroplasty is to be considered in all cases in which bony ankylosis has resulted. It should not be attempted, however, until the urologist is satisfied that the local infection has been taken care of, as recurrent infection in previously infected joints is frequently seen and, of course, would defeat the aim of arthroplasty.

Benjamin A. Thomas, M.D. (Philadelphia, Pa.): As I see the treatment of gonorrheal arthritis, there are three factors to be observed: (1) the local condition in the urethra or its appendages; (2) treatment of the focal condition of the affected joint or joints; and (3) sterilization of the blood to rid it of the infection. Gonorrheal arthritis without a blood-borne infection seems inconceivable. Therefore, it is very important and necessary to secure complete immobilization of the joint early and promptly in conjunction with the indicated local treatment, also to attempt sterilization of the blood in order to destroy the infection which has localized about the joint. The orthopedist or genito-urinary specialist who neglects any of these three factors will not obtain the results he should.

In treatment of the blood-borne infection, two procedures are available, either biologic therapeusis (sera or bacterins) or chemotherapy. In very acute cases, the best agent is a good antigonococcic serum. Unfortunately, there is no antigonococcic serum on the marked today which is as potent as pharmaceutical firms could or should make it; that is, the antigens which are used for the immunization of the animals are not sufficiently polyvalent, and consequently, the immune-body content of the serum is not so great as it should be. In subacute or chronic cases, the serum does not compare in efficiency with a good antigonococcic bacterin or vaccine. If biologic therapeusis is not at hand, some of these cases will derive considerable benefit from resort to chemotherapy. So far as I know, the best preparation on the market today was recommended a year or more ago by Young and Youmans, viz., ammonia-ortho-iodo-oxybenzoate, commercially known as oxoate. I have used this preparation intravenously in some cases with astonishing results, but in others it did not come up to expectations.

We have tried injection of the seminal vesicles through the rectum and also directly through the perineum, although the latter is much more difficult. However, I do not see the necessity or utility of either method, provided injection of the seminal vesicles is carried out by vasopuncture—a procedure superior to vasotomy.

Elmer Hess, M.D. (Erie, Pa.): It is surprising that diathermy in the treatment of gonorrheal arthritis has not been mentioned. In a properly selected case, it will get a gonorrheal arthritic out of bed in a week, sometimes on the same day or the day after. This treatment, of course, would not apply to a joint full of pus or fluid, but to the acute gonorrheal arthritis seen one or two days after the process starts.

William C. Bryant, M.D. (Pittsburgh, Pa.): Care should be taken not to add any pathology to the inflamed urethra; in other words, not to do anything which will increase the symptoms. There is no doubt that the profession as a whole has mistreated gonorrhea more than any other disease. It is hard to realize this, but all of us have been guilty in this respect. If we were more careful, we should not have so many later complications.

Dr. McCahey (in closing): The important thing about gonorrheal arthritis is to understand, if possible, the relation between the course of the urethritis and the course of the arthritis. This has never been worked out satisfactorily. In our paper we show that when the seminal vesicles were acutely inflamed, the joints also were acutely inflamed. When the arthritis passed from the acute to the subacute stage, the seminal vesicles were not tender and hot; they were palpable and tender, but there was no heat there. If a man apparently recovered from gonorrheal arthritis, the joint returned to normal; and if he had a recurrence in three or four years, it was associated with a chronic infection of the seminal vesicle. These patients may or may not have bone changes. Some had spurs on the os calci, denoting that the focus in the seminal vesicle had been active in causing bone changes, but had not assumed sufficient subacute activity to cause active peri-articular inflammation of the joint.

We do not know at present just when to use focal treatment and when a patient will recover without it. There is no doubt that this occurs many times. Before the introduction of Dr. Fuller's operation in 1905, there were cases of gonorrheal arthritis which entirely recovered. This problem should be investigated.

TREATMENT OF GASTROJEJUNAL OR MARGINAL ULCER*

JOHN B. DEAVER, M.D.
PHILADELPHIA, PA.

Marginal or gastrojejunal is the type of peptic ulcer that, up to the present, the internist and the gastro-enterologist have not claimed as their own. When the gastro-enterologist becomes expert enough to pass the duodenal tube with certainty through and beyond the gastroenterostomy opening, the surgeon may have a rival in the treatment of these ulcers. Like

*Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

duodenal ulcer, the gastrojejunal ulcer is not prone to develop cancer.

The cause of marginal ulcer, so far as we know, is the same as for primary peptic ulcer except that mechanical factors, such as bruising of the tissues at the time of making the gastro-enterostomy and the presence of an unabsorbed or incompletely encapsulated linen suture, may play a part in its development.

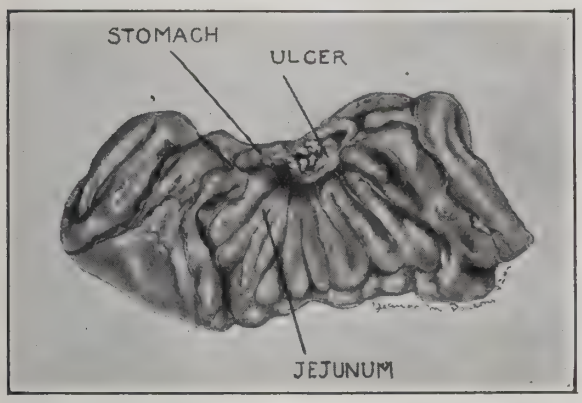

Fig. 1. Marginal ulcer.

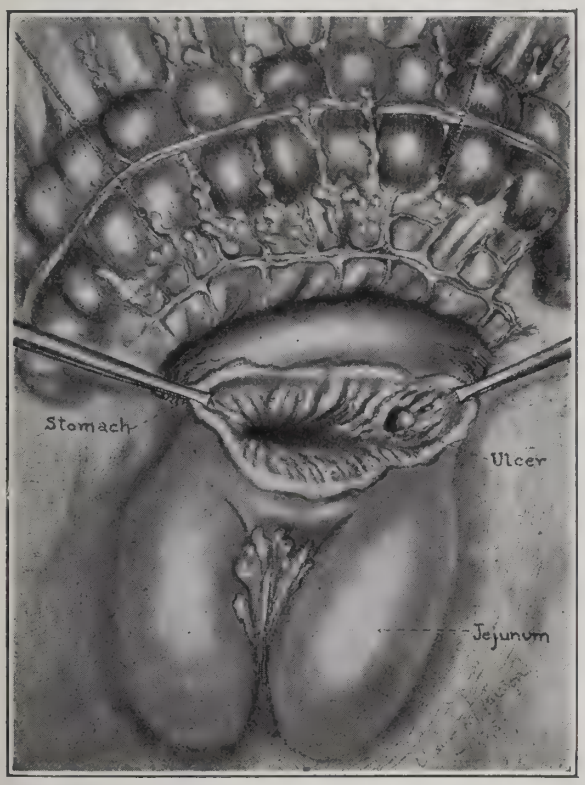

Fig. 2. Marginal ulcer at site of old gastrojejunostomy.

The diagnosis is made by x-ray study and clinically by correlation of the symptoms, which are very much the same as in the original ulcer. The pain, however, is more constant than in either duodenal or gastric ulcer, and is more often referred to a point midway between the epigastrium and the umbilicus rather than to the epigastrium, as in the two more common types of ulcer.

X-ray study, with few if any exceptions, shows only deformity but not the ulcer. Marginal ulcer, like primary peptic ulcer, may occasionally bleed and also perforate. It is only the knowledge of the presence of a marginal ulcer, based on the history of a recurrence of symptoms after gastrojejunostomy, that could possibly enable one to make a provisional differential diagnosis between hemorrhage and perforation coming from a secondary or another primary peptic ulcer.

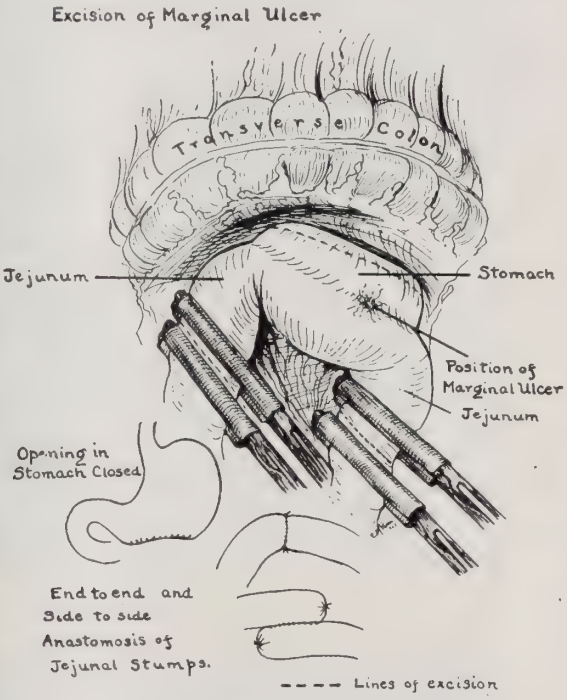

Fig. 3. Excision of marginal ulcer.

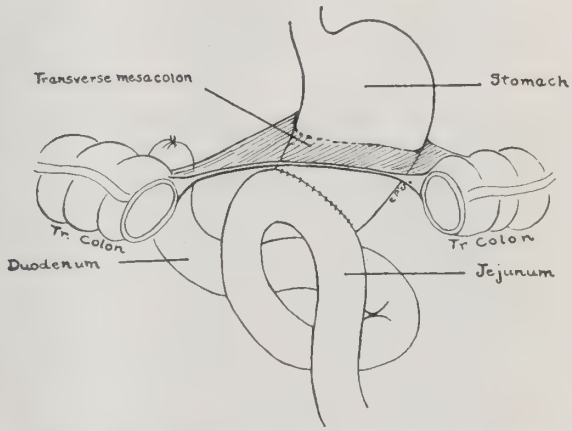

Fig. 4. Resection of stomach with anastomosis to jejunum posteriorly—below transverse mesocolon.

A perforated marginal ulcer, due to its position beneath the transverse mesocolon, assuming that the gastro-enterostomy is a posterior one, will be followed by peritonitis earlier than perforation of a duodenal or gastric ulcer, owing to the fact that the enteronic area, sometimes spoken of as the labyrinth, next to the diaphragmatic peritoneum is the most susceptible to infection. Incidentally, it may be stated that recovery is the rule if the patient with a perforated ulcer is seen early and the condition recognized as it should be from the severity and sudden onset of the pain and the characteristic boardlike rigidity of the abdominal

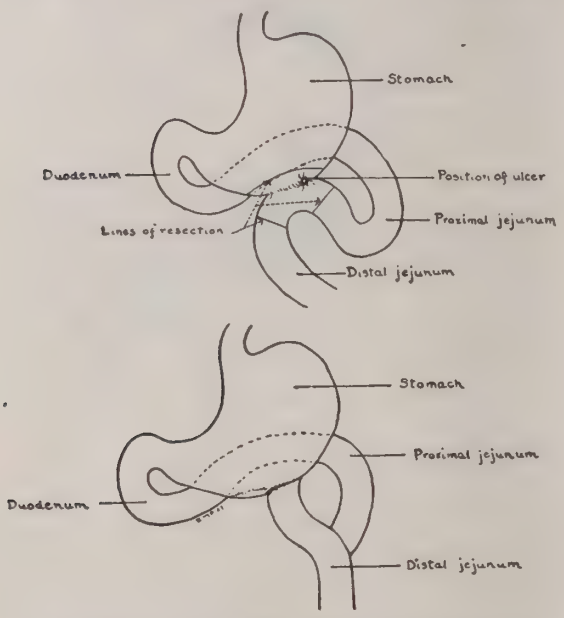

Fig. 5. Diagram of Roux Y operation for marginal ulcer.

walls, and if operation is immediately done, for then peritonitis will not be present. Smears made at this time show a sterile operative field. A perforated ulcer is an abdominal catastrophe making it imperative upon the doctor, if the best interests of the patient are to be served, to "look and act, not watch and wait." (Moynihan.)

Operation is the most promising course in the treatment of marginal ulcer and must be carried out according to the conditions found upon exposure of the lesion. With the abdomen opened, the first step is the separation of adhesions and careful study of the topography. The site of the lesion having been exposed, its recognition is next in order. During this, and more especially during the latter part of the operation, every possible care to provide against contamination is absolutely essential. The lesion is recognized by sight and touch, the deformity, the opacity, lines of radiation of the peri-ulcerous exudate, and the palpable hardness. When the ulcer is very small and has not invaded all of the coats of the stomach or jejunum, as the case may be, palpation by invagination of the respective ends of the proximal and distal loops of the jejunum into the gastro-enterostomy opening may detect a circumscribed point of induration indicative of the ulcer site. Where there is a crater, the ulcer can readily be recognized by invagination of the wall of the viscus opposite the ulcer. If the ulcer is not found by any of these means, opening the stomach above the gastro-enterostomy aperture and invagination of the openings of the bowel will expose the lesion.

A very small ulcer with little, if any, peri-ulcerous exudate is treated by excision and closure, but in my experience this is not often the case. I usually find that the peri-ulcerous exudate is so extensive that nothing short of radical work will suffice. This means excision of the gastro-enterostomy opening, including the ends of the proximal and distal loops of the jejunum. This entails an end-to-end or a lateral anastomosis of the jejunum and the making of a new gastro-enterostomy if the pylorus or duodenum is obstructed. When the pylorus and first portion of the duodenum have not been removed at the previous operation or the pylorus is patent, and in the absence of a second duodenal or gastric ulcer, the two ends of the jejunum are anastomosed and the opening in the stomach is closed.

Where the marginal ulcer is large with a wide area of peri-ulcerous exudate, involving chiefly the stomach wall, subtotal gastrectomy is the operation of choice. The latter can be concluded as a Billroth No. 2 or by anastomosing the end of the stomach to the side of the jejunum; or a Roux Y operation can be done by anastomosing the end of the distal loop of the jejunum to the site of the original gastro-enterostomy or, if preferred, to a new opening in the stomach and the end of the proximal loop to the side of the distal loop of the jejunum. I do not think well of this procedure since in my experience a second marginal ulcer is likely to occur.

The worst form of marginal ulcer is the one in which involvement of the colon results in a communication between the stomach, the jejunum, and the colon, making a gastrojejuno-colic fistula. Where the opening in the colon is comparatively large, in addition to the usual symptoms of marginal ulcer there is diarrhea, due to the contents of the stomach passing directly into the colon, and emaciation. These

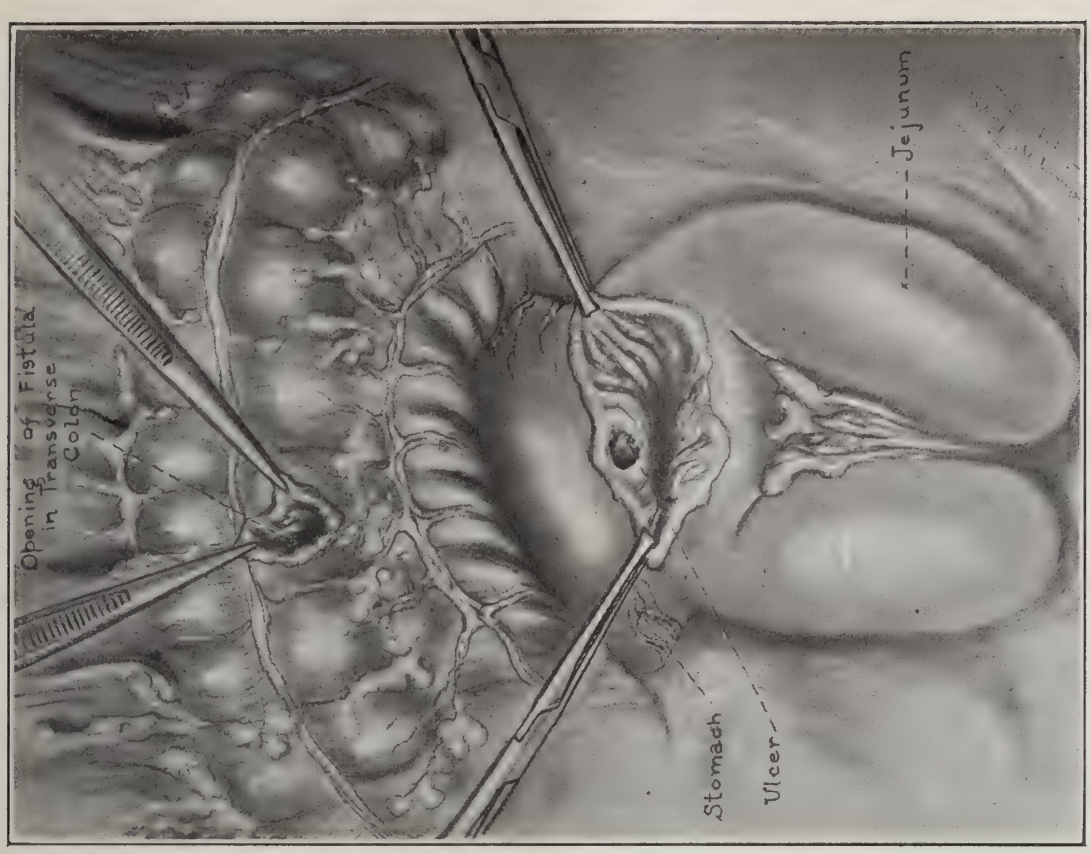

Fig. 7. Gastrojejunocolic fistula opened up to show marginal ulcer and fistulous opening in transverse colon.

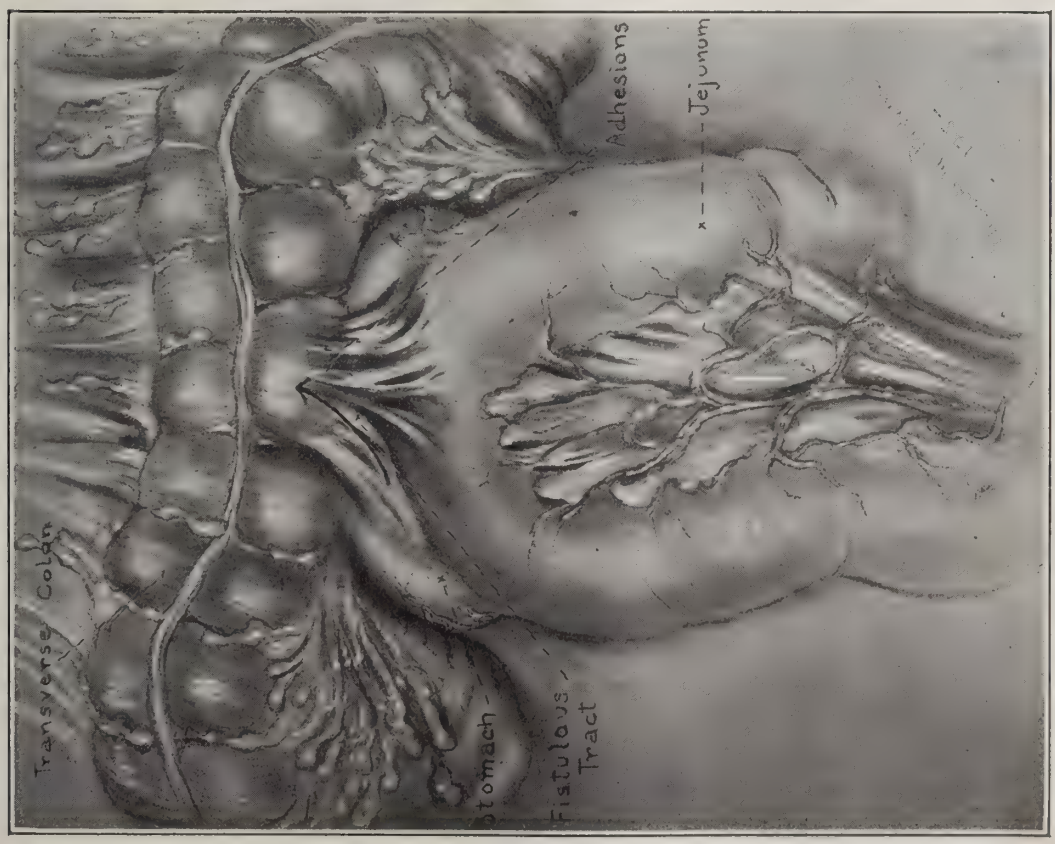

Fig. 6. Gastrojejunocolic fistula with adhesions between stomach, jejunum, and transverse colon (arrow indicates direction taken by food).

two signs—diarrhea and emaciation—in a patient who has had a gastro-enterostomy should excite suspicion at once. This complication, with the surgery necessary for its correction, makes marginal ulcer equal to Sherman's definition of war.

The surgery for the repair of a gastrojejunocolic fistula depends upon the size of the fistula and the amount of peri-ulcerous exudate. Where the opening into the colon is small and the peri-ulcerous exudate slight, separation of the jejunum will permit closure of the fistulous opening, the ulcer to be disposed of as previously described. Where the fistulous opening is large and the peri-ulcerous exudate extensive, resection of the colon and anastomosis of the ends with excision of the ulcer and repair of the jejunum and stomach openings, as above described, will be the indicated procedure.

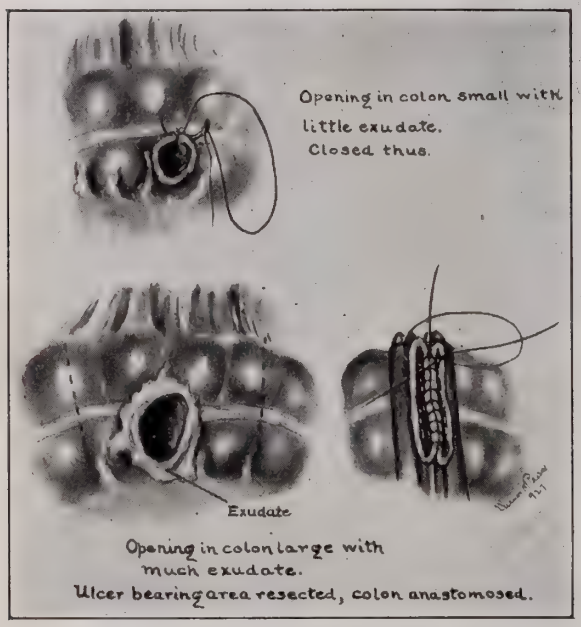

Fig. 8. Treatment of gastrocolic-jejunal fistula.

In this operation it has occurred to me that in posterior gastro-enterostomy, by making the opening in the transverse mesocolon nearer the vertebral than the colonic border, invasion of the colon would be less likely to occur. This has been my practice for some time, and up to the present the results have been satisfactory.

1830 Delancey Street.

A slow-healing sore on the finger of a physician, dentist, or nurse should immediately arouse suspicion of syphilis. A dark-field examination should be done at once. Failure to suspect the true character of such lesions may cause the loss of much time. Not an hour should be lost in beginning the treatment of acute syphilis once a positive diagnosis is made.—*Journal, Oklahoma State Medical Association.*

Symposium on Rheumatic Fever*

THE ETIOLOGY AND SPECIFIC TREATMENT OF RHEUMATIC FEVER†

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In rheumatic fever the acute arthritis naturally attracts attention as an outstanding feature of the disease. It is for the most part a transient manifestation, and may be regarded a fortunate occurrence since it constitutes an early diagnostic symptom. We are coming more and more to the conception that the morbid processes of rheumatic fever do not cease with the disappearance of the acute arthritis, no more so indeed than are the ravages of syphilis terminated upon the disappearance of the skin lesions. Far more significant lesions persist in deep-seated vital structures. The cardiac involvements of rheumatic fever are essentially chronic in nature—chronic not only in the sense of producing permanent mechanical damage, but rather in the continued operation of the morbid processes responsible for this mechanical damage. It appears to be reasonable to think of rheumatic fever as a chronic carditis rather than as an acute arthritis.

I need not dwell on the evidence accumulated in support of the infectious nature of rheumatic fever, with acute tonsillitis as its frequent forerunner. The seasonal occurrence, the appearance of multiple cases in families, the high incidence during certain years and in certain localities—all point to the infectious nature of the disease.

Streptococci have been associated with the etiology of rheumatic fever, in spite of the failure to identify any particular species as being constantly demonstrable in the disease. The upper respiratory tract has come to be considered as the probable site of primary localization of the infecting microörganism.

We are beginning to regard the term "streptococcus" in a more rational sense as our knowledge increases. It represents a large group of microörganisms from which the individual species responsible for different disease entities are being separated by complicated serologic procedures.

From the clinical standpoint, confusion has arisen in the differentiation between rheumatic endocarditis and bacterial endocarditis, particu-

*Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 5, 1927.

†From the Rheumatic Fever Wards and the Pathological Laboratory of the Philadelphia General Hospital.

larly in the transition stages of the former into the latter. A streptococcus obtained in the blood culture of a patient might arise from either the one or the other of these conditions. This has added to the difficulties in evaluating properly the etiologic significance of the strains of streptococci obtained in such cultures.

I have described a new species of streptococcus associated with rheumatic fever under the name of Streptococcus cardioarthritidis, and in a preliminary report recorded the application of an antiserum of this microörganism as a therapeutic measure in rheumatic fever. Since this report‡ appeared, in January, 1927, we have extended our studies of this microörganism and its antiserum, both in the laboratory and in the hospital ward. The antiserum has been used in the treatment of about 170 patients, divided as to diagnosis between rheumatic fever, with its various cardiac manifestations, chorea, and in a few instances, the various types of arthritis.

Two eight-bed wards in the Philadelphia General Hospital have been given over to the study of rheumatic fever since April, 1927. Our observations in these wards have been made on 70 patients.

Reasons for Attributing Specificity to Streptococcus Cardioarthritidis

Our studies of rheumatic fever have yielded many data which are now being prepared for publication. At this time, only a sketchy outline of some of this material can be given. I should like to present certain observations bearing on the relationship between rheumatic fever and Streptococcus cardioarthritidis which appear to have a bearing on the question of the specificity of this microörganism in the disease.

In Streptococcus cardioarthritidis we have a species of streptococcus showing distinctive cultural characteristics and one which may be readily identified immunologically. While this organism seldom is recoverable from the blood stream in rheumatic-fever patients, we have recovered it in three typical active cases of this disease. Blood cultures in other conditions have not yielded it. It occurs regularly in the throats of rheumatic individuals, but is also frequently found in the pharyngeal cultures of apparently normal individuals—resembling in this respect the pneumococcus.

Individuals subject to recurrent attacks of grave rheumatic fever show an extreme susceptibility to minute doses (1 to 5 millions of the microörganism) of the vaccine prepared from it. This susceptibility is manifested by general reactions, in which arthritic pains and stiffness, general malaise, anorexia, fever, precordial pain, cardiac arhythmias, and muscular twitchings, are outstanding features. In some instances, acute, febrile exacerbations of acute arthritis have promptly followed the administration of the vaccine in patients convalescing from an attack of rheumatic fever.

The experimental infection of rabbits with Streptococcus cardioarthritidis tends to chronicity, and shows lesions similar to the lesions of rheumatic fever in man.

Its specific agglutinins are absent in the serum of patients early in the acute primary attack of rheumatic fever, increase in amount during the course of the disease, but seem to disappear rather early following recovery.

The opsonins for this microörganism have been worked out carefully in our series of active cases by Dr. George Ross, of Toronto. The titer of its opsonins in the sera of patients has been found to parallel the clinical condition of the patient, so much so, indeed, that we have come to regard it as a useful indication in determining dosage of the antiserum and as a valuable prognostic sign. These opsonins regularly rise during the favorable course of the disease, regardless of the mode of treatment, and they persist at a high level during convalescence and following recovery.

Monovalent antiserum for Streptococcus cardioarthritidis has been prepared in the rabbit, the horse, and the ox. Two strains—one a lactose fermenter, the other a nonfermenter of lactose—have been used in the preparation of antisera, which have yielded similar responses when applied clinically. Prompt beneficial effects following the administration of the antiserum have been demonstrated in the arthritis, the subcutaneous nodules, the carditis, the pericarditis, and the pleuritis of rheumatic fever. These effects are distinct from serum sickness and from the immediate nonspecific protein reaction, as judged by controls receiving normal horse serum without these benefits.

A striking effect is obtained in the treatment of active chorea by the antiserum. This manifests itself in the prompt subsidence of the choreic movements, which occurs before the period of serum sickness. As a control, normal horse serum was administered without effect and later followed by bovine antiserum of Streptococcus cardioarthritidis with prompt termination of the choreic movements.

In a period during the development of the antiserum, deleterious effects in chorea and in the arthritic manifestations of rheumatic fever

‡Am. J. M. Sc., January, 1927, 173, 101.

were observed following its administration. These were promptly overcome by allowing a longer period to elapse between the last massive inoculation of the animal and the bleeding of the animal. This suggested that toxin, either free or combined, may have been present in the serum. The unfavorable effects were manifested by aggravation of the choreic movements and of the arthritis.

In deep-seated rheumatic infections we have observed occasional relapses occurring always at the end of a period of from four to five weeks following the administration of the antiserum. This period corresponds to the probable duration of the period of passive immunity as judged by comparison with that conferred by the antiserum of diphtheria. These relapses have not been observed in a larger series of cases since we have begun the administration of the vaccine of Streptococcus cardioarthritidis closely following the injection of its antiserum.

Methods of Treatment*

We have endeavored to administer the antiserum as early as possible after the patient has been admitted to the ward and the diagnosis made. The dosage in volume of serum has been from 25 to 200 cubic centimeters, depending on the severity of the case. The serum is administered intramuscularly. No salicylates are given, but codein and morphin are used in the amounts required for the comfort of the patient. The attempt is made to administer at one injection the amount of antiserum adjudged necessary, but frequently a second injection is required.

Following the observation that relapses may occur from four to five weeks after the administration of the antiserum, it was determined to attempt the building of an active immunity against Streptococcus cardioarthritidis within this period. Therefore, small, carefully regulated amounts of the vaccine were used hypodermically at five-day intervals, beginning within a few days after the administration of the antiserum. This practice seemed logical, and since there appeared no definite contraindication to an attempt to build active immunity during the existence of a period of transferred passive immunity, it was begun. Since its institution rather early in our study, we have not seen these relapses. This practice has now become a routine measure.

Before undertaking the treatment of a patient, careful clinical, laboratory, and special studies are made. The patients are under my direct charge, and are studied daily in the wards. Every effort is made to follow the progress of the condition by clinical and laboratory methods. The patient's welfare comes first into consideration, and our observations are incidental even though we aim to make them as complete as possible. Excellent and intelligent nursing service has been provided. Among the special studies are included cultures of the blood and the pharyngeal exudate, the determination of agglutinins and opsonins for Streptococcus cardioarthritidis in the patient's serum, roentgen-ray measurements of the cardiac area, and electrocardiograms.

The Present Status of the Development of the Antiserum

At the present time eight horses and one ox are under treatment for the production of the antiserum. The antiserum has not been perfected. Its period of development has been far too short to accomplish this. The preparation of an antiserum for therapeutic purposes is a tedious process at best, and that of preparing a new one is fraught with many delays, disappointments, and hazards. Progress has been made, and the antiserum in its present stage of development appears to be a practical therapeutic agent in rheumatic fever, yielding beneficial detoxifying effects. It compares favorably with the salicylates in this respect, but is not represented as being superior to the salicylates. Salicylates properly administered in sufficient dosage bring about prompt beneficial effects in rheumatic fever, as is well known.

Theoretical Considerations

The effects with the antiserum in chorea and in the cardiac involvements of rheumatic affections appear to differ in some respects from those obtained with salicylates. The clinical response seems to be more complete upon its full culmination, in the case of the antiserum. This suggests a quantitative neutralization of the toxemia with the antiserum, whereas the detoxifying action of the salicylates may not be altogether complete. This hypothesis, if confirmed, would always leave a significant place for the salicylates in the treatment of rheumatic affections, in that they would be employed to reduce the toxemia and thus decrease the amount of the antiserum necessary to complete the quantitative neutralization.

The antiserum, however, is of secondary im-

*The methods of treatment and the development of the antiserum have progressed considerably since the presentation of this report. The reader is referred to the following reports on rheumatic fever:

1. "Observations Bearing on the Specificity of Streptococcus Cardioarthritidis in Rheumatic Fever and Sydenham's Chorea." *Am. J. M. Sc.*, 175: 638 (May, 1928).
2. "The Present Development of the Biologic Products of Streptococcus Cardioarthritidis and Their Application in the Treatment of Rheumatic Diseases." *Am. J. M. Sc.*, 175: 650 (May, 1928).

portance when compared with the possibility of the establishment of active immunity in the patient by means of a specific vaccine. If the patient's resistance can be raised by this means so that inflammatory lesions of the cardiac structures will heal and protection of these structures against further involvement will be furnished, then real progress in the control of rheumatic cardiac disease will be accomplished.

The application of such a vaccine as a prophylactic measure is not an improbability. Herein would lie the greatest accomplishment of all, but as experience with diphtheria indicates, one which is likely to be the most carelessly applied.

It is a significant fact and one worthy of repeating that since the institution of the vaccine treatment closely following the administration of the antiserum, relapses in grave cases of rheumatic fever have not been observed.

N. E. Corner 36th and Walnut Streets.

THE IMPORTANCE OF PROLONGED CONVALESCENT CARE IN RHEUMATIC HEART DISEASE*

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"It is estimated in Austria that if rheumatism could be prevented or cured as quickly as scarlet fever is today that seventy-five per cent of heart disease would be done away with. At Bristol, England, Carey Coombs estimated that fifty per cent of his hospital practice and twenty-five per cent of his private practice is due to acute rheumatic fever. It is estimated that one thousand children die weekly in England and Wales from acute rheumatic fever."[1] In the Presbyterian Hospital of New York and the Pennsylvania Hospital of Philadelphia it has been estimated that at least thirty-five per cent of the medical admissions have a rheumatic etiology. It is hoped that widespread use of a nomenclature for cardiac diagnosis[2] recently recommended by the American Heart Association will do much towards securing a more accurate estimate of the etiologic factors in the various cases of cardiovascular disease.

The main object of this paper is to emphasize the long period of active damage to the cardiovascular system accompanying and following pancarditis, arthritis, and choreiform movements, all of which we believe are due to a specific organisim. Whether that organism has been isolated, we are not at present in a position to state definitely, but we believe the work of Small[3] and Birkhaug[4] holds much promise.

McMillan[5] and one of us presented, at this year's meeting of the American Medical Association, a résumé of the results in the convalescent care of 225 children with heart disease over a period of five years, at the Children's Heart Hospital in Philadelphia, which is owned by the Children's Hospital and financed by the Welfare Federation through the Philadelphia Heart Association. A summary of the results to date is as follows:

Condition satisfactory	108
No improvement	17
Unsatisfactory follow-up	61
Deaths	39
Total	225

We now wish to offer certain evidence which led to the third conclusion stated in that paper; namely, that there is at present no single finding upon which a belief may be based that the proliferative evidences of the rheumatic infection have either become latent or been overcome, and that in spite of a marked gain in weight and apparent clinical well-being, the cardiac infection may be active or latent, as evidenced by a low-grade fever and leukocytosis.

Out of 25 of our series of cases in which there was a particularly satisfactory follow-up we chose four for particular study. The records of these children include in every case an admission to the Pennsylvania Hospital, followed by several months in the Children's Heart Hospital, and after that, observation in the Pennsylvania Hospital Heart Clinic or in private practice.

The temperatures while in the hospital were recorded weekly, taking the highest temperature for the week. In most cases, after making the weekly chart, it could not be distinguished from the daily chart. At each visit to the Heart Clinic (where visits were apt to be irregular), the temperature was recorded, with its date.

In every case there was a definite history of rheumatic arthritis, and in some, of tonsillitis, or chorea in addition. The abnormal physical findings were chiefly increased pulse rate, enlargement of the heart with valvular heart damage, and, in a few patients, early congestive heart failure. Undernourishment, measured by loss of weight, was one of the most striking of the symptoms and signs of this disease.

We feel that these children represent a group between the cases of acute rheumatic pancarditis,

*This work has been done under the Morris W. Stroud, Jr., Fellowship in Cardiology of the Pennsylvania Hospital.

which proves fatal in a few months, and the cases in which the infection seems rapidly to become inactive, the so-called "cured" cases. Our series compels one to alter one's attitude towards these latter, and to suspect latent activity for many years.

It is beyond the scope of this paper to review the literature concerning rheumatic heart disease, but we believe it our duty to refer to the earlier work of Swift,[6, 7] Carey Coombs,[8, 9] and the more recent work of Bertram,[10] Mackie,[11] Miller,[12, 13] and Allan and Thomson.[14] It is to them that we owe the modern conception of rheumatic heart disease, and our findings do no more than confirm their contention concerning the prolonged activity which persists in the cardiovascular system many years after the symptoms of tonsillitis, chorea, or arthritis have disappeared. To them belongs the credit of calling attention to the similarity between symptoms and treatment indicated in tuberculosis and rheumatic fever in their various forms. Swift says: "Assisting a patient to overcome his infection by increasing his general nutrition has been shown to be one of the most important therapeutic measures in tuberculosis. Maintaining or increasing a typhoid-fever patient's weight has been shown to shorten the period of convalescence from that disease. In our experience the maintenance of nutrition is one of the most important therapeutic measures for rheumatic fever..... This brings us directly to what I regard as probably the most important phase of treatment of rheumatic fever; namely, the length of time it is necessary to keep the patient quiet. Briefly, it can be stated that this should be as long as signs of infection persist."

Our cases illustrate the long duration of infection within the system, but with care such as is given in our hospital, these children are enabled to gain weight in spite of a marked leukocytosis and a definitely active carditis, thus assuring them that which is considered at present the most important therapeutic measure in this infection, namely, "maintenance of nutrition."

To summarize, then, we have stressed:

1. The large number of cases of rheumatic cardiovascular damage met with in this and other parts of the world by the average physician in either hospital or office practice, and the importance from the standpoint of treatment and prognosis of recognizing the etiologic factor in these cases.

2. The persistency of the active carditis in these patients for *at least* three to five years, as evidenced by careful temperature determinations and physical examinations.

3. The successful results secured by maintaining nutrition in the majority of these children, through the routine treatment carried on in our Children's Heart Hospital in Philadelphia, thus offering them the most important therapeutic measure now definitely recognized in rheumatic heart disease.

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THE ELECTROCARDIOGRAPHIC CHANGES OCCURRING DURING RHEUMATIC FEVER*

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The clinical, pathologic, and bacteriologic features of rheumatic fever have been the object of very intensive study in recent years. Along with these aspects, the electrocardiographic changes which occur during this disease have also come in for their share of study.

White,[1] Krumbhaar,[2] and Parkinson, Gosse, and Gunsen[3] were among the workers who pointed out the frequent occurrence of varying grades of auriculoventricular heart block. Cohn and Swift[4] and Swift,[5] after very careful studies, found many disturbances of rhythm, as had others. Among the conditions met with were auriculoventricular block, intraventricular block, auricular fibrillation and flutter, premature beats,

*From the Division of Cardiology of the Philadelphia General Hospital.

auriculoventricular rhythm, and auricular paroxysmal tachycardia, as well as certain changes in the shape of the ventricular complex. They called attention to the transient nature of these disturbances, which may be present one day and absent the next. They also stressed the frequency with which these changes occur in rheumatic fever. Swift found some degree of functional disturbance in over 90 per cent of 87 patients suffering from this disease. He pointed out the great importance of these findings in helping to determine the presence or absence of cardiac damage. The observations of Swift and Cohn tend to corroborate the conviction which every method of investigation in this disease is rapidly forcing—that in practically every case of rheumatic fever the heart is damaged, at least to some extent.

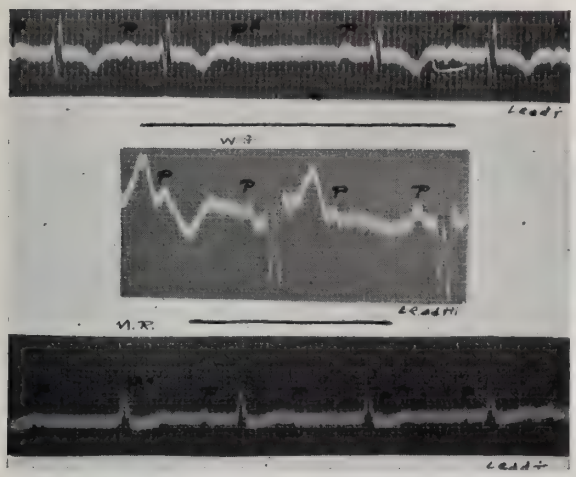

Fig. 1. Heart block. Isolated leads from three different patients showing, from above downward, prolonged P-R intervals and one dropped beat, 2: 1 A-V block, and two dropped beats.

Changes in the form of the ventricular complexes during active rheumatic infection were among the interesting and important electrocardiographic findings of Cohn and Swift. Changes of a similar nature were found in a high percentage of patients also by Rothschild, Sacks, and Libman.[6] These changes occurred in the Q-R-S or T waves themselves or in the interval between these waves. The T wave might become inverted. The Q-R-S group at times develop notches or shadings. An unusual finding was the failure of the R wave to return to the base line, or in the case of an S wave, an extension of this wave above the base line, so that the T wave was begun at a point above the iso-electric line. In some instances there was no iso-electric period, the T wave apparently coming off directly from the Q-R-S complex. In other instances the R-T or S-T interval had an exaggerated upward or downward direction which

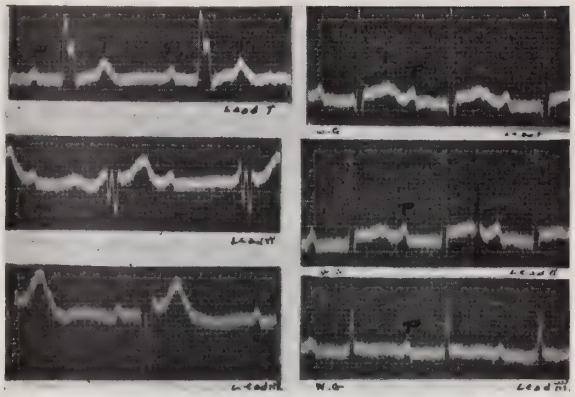

Fig. 2. Heart block. Two tracings of the same patient taken on successive days, showing on the first day 2: 1 A-V block and partial right branch bundle block, which had disappeared from the tracing on the second day. The latter also shows the S-T interval coming off high (see text).

persisted up to or beyond the beginning of the T wave, the latter wave being somewhat deformed by the phenomenon.

It can be seen from the above incomplete reference to a few of the previous reports on this subject that many electrocardiographic changes occur during the acute manifestations of rheumatic fever. All who have studied this matter have commented upon the ephemeral nature of the various changes which occur. No one has yet felt that we have a right to assume these changes to be specific for the disease under consideration. The site in the heart of the processes responsible for the altered electrocardiograms cannot be identified. Indeed, it cannot yet be said whether the changes are the result of toxic processes or transient structural alterations. However, the feeling persists, in view of the specific histologic lesion of rheumatic fever, that the changed curves are in some way the result of the Aschoff nodules within the heart muscle.

Since 1923 we have had the opportunity of

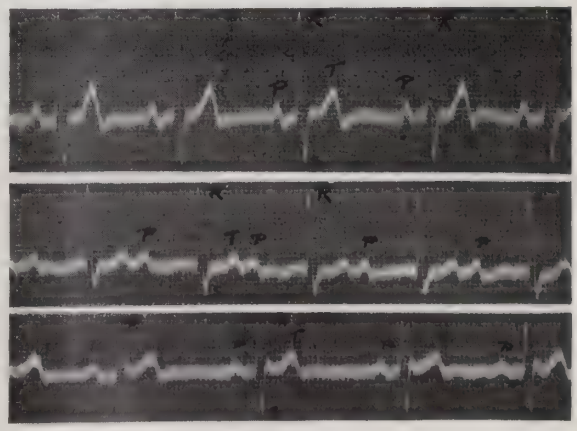

Fig. 3. Heart block. Leads 1, 2, and 3, showing a sudden lengthening of the A-V conduction time (P-R interval), it being over twice as long in lead 2 as in leads 1 or 3.

studying a number of cases of rheumatic fever with the electrocardiograph. However, because of the extreme transientness of the electrocardiographic changes, we are including in this report only the studies on the 43 patients who were under observation during nearly the whole of their acute illness, and from whom at least three electrocardiograms were obtained.

Auriculoventricular block. In 22 patients, or 51 per cent, some degree of A-V block was observed. In 6, dropped beats were found. In 1, transient complete block was present. However, the question of this being the result of medication, in part at least, was raised by the fact that this patient had received 30 minims of tincture of digitalis daily for four days before this disturbance was noted.

We found the prolongation of the P-R interval and the higher grades of block to be extremely transient, as did others who have studied this matter. How transient the block may be is well illustrated by the three tracings shown in figure 3. In lead 1 the P-R interval measured 0.155 seconds. In the time taken to connect lead 2, the P-R interval had lengthened to 0.244 seconds. In lead 3 it again returned to 0.155 seconds. The question of 2:1 block being present with P waves hidden in T waves is answered by the presence of a sinus arhythmia in lead 3 which would have revealed any hidden

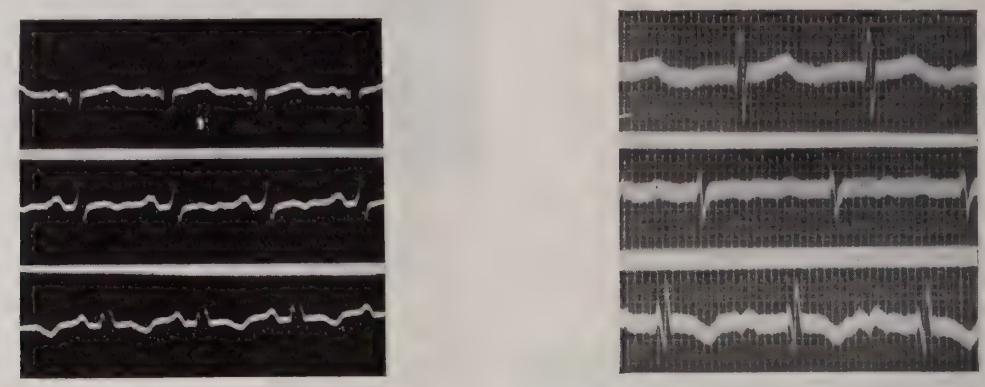

Fig. 4. Changes in the form of the Q-R-S complex. Two electrocardiograms of the same patient taken at an interval of one week. They show minor changes in the height and direction of the ventricular waves. Lead 1 at top, lead 2 in center, and lead 3 below.

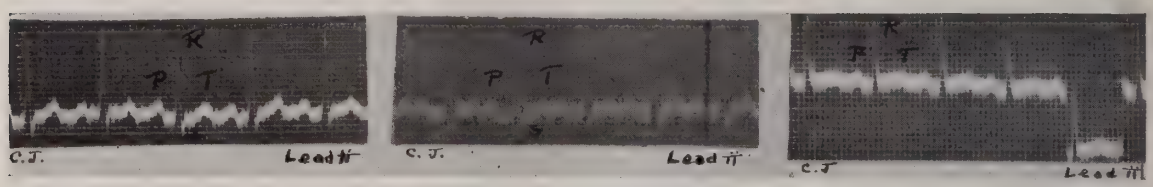

Fig. 5. Changes in the form of the Q-R-S complex. Three leads 2 from the same patient taken at different times, showing how an S wave sometimes disappears and leaves in its stead a slight shading at the foot point of the R wave. After this minor change the S-T interval often appears to come off a little high.

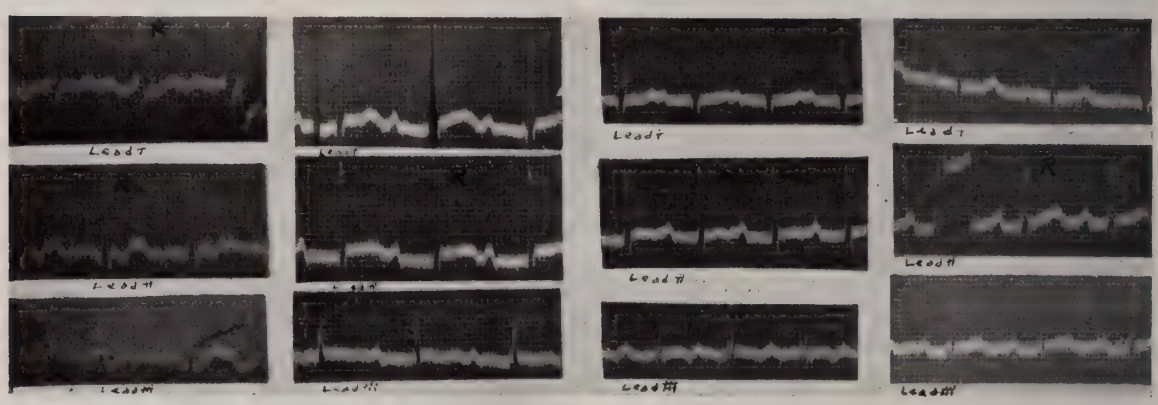

Fig. 6. Changes in the form of the Q-R-S complex. Electrocardiograms of the same patient taken over a period of three weeks, showing the gradual development of a notch in the peak of the R wave. This remained a permanent change.

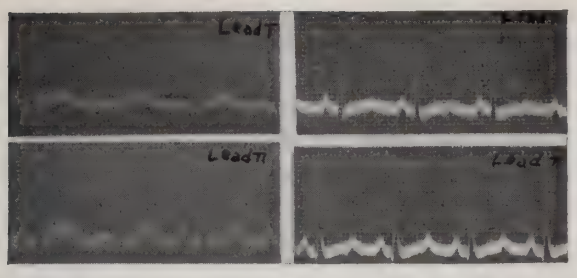

Fig. 7. Changes in the T wave and R-T or S-T interval. Leads 1 and 2 of the same patient on different days. They show the R-T and S-T intervals on a convex upward curve at the time of the anticipated beginning of the T wave, resulting in this wave being notched and bizarre (see text).

T waves in the altering R-R intervals. Such abrupt alterations in A-V conduction are very unusual. Just how rheumatic fever can so quickly bring about the profound changes in the physiologic properties of the heart muscle necessary to produce such a suddenly developing heart block can hardly be answered at this time.

Changes in the Q-R-S complex. The changes that we found in this group of waves were similar, in the main, to those reported by Cohn and Swift[4] and by Rothschild, Sacks and Libman.[6] Changes in the height or direction of R or S waves were present frequently. These were often sufficiently marked to justify an interpretation of transient ventricular preponderance. In figure 4 examples of such changes are shown. Modifications of this nature undoubtedly are found without the existence of rheumatic fever. Therefore, we are unwilling to attach much importance to them.

A slight notching (or better, slurring or shading) of the Q-R-S complex near its base line is not uncommonly met with in apparently normal hearts. Notches at or near the peak of the R wave are not a common occurrence, and arouse the suspicion of some abnormality of intraventricular conduction. Notches in the latter site, in leads 1 or 2, were met with in 11 of the 43 cases upon which we are reporting. In some instances these notches were transient, while in others they remained permanently. In still other cases their position and shape became altered. These changes are shown in figures 7, 8, 9, and 13.

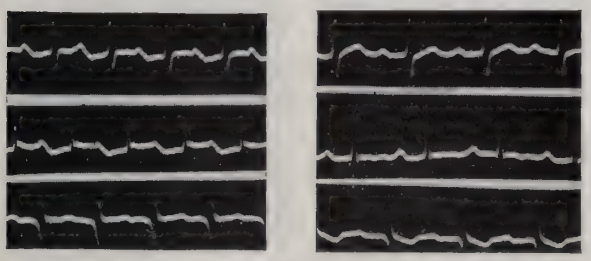

Fig. 8. Changes in the T-wave and R-T or S-T interval. Two electrocardiograms (leads 1, 2, and 3) of the same patient. In the left one the R wave fails to return to the base line before giving off the R-T line.

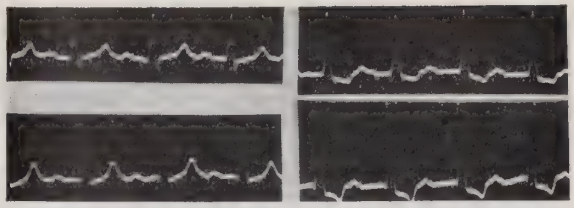

Fig. 9. Changes in the T wave and R-T or S-T interval. Leads 1 and 2 of one patient taken on different dates. They illustrate the marked inversion of the T waves that frequently occurred.

Intraventricular block, with widened and deformed ventricular waves, was found to be present by Cohn and Swift, by Rothschild, Sacks, and Libman, and by Bain and Hamilton[7] in a small percentage of their patients. We found it present in 2 of our 43 cases. In both it was transient. In figure 2 are shown tracings of the same patient taken on successive days. In the first, the ventricular curves are widened and notched, showing the characteristics of partial branch bundle block. The comparison curves show a return to normal intraventricular conduction. The second example of this disturbance is shown in figure 13. In this instance, the long duration of the ventricular complex (0.133 seconds) was gradually reduced over a period of days to 0.102 seconds without any marked change in the architecture of the waves. This suggests that the widening in the first tracings was not due to an asynchronous activation of the two ventricles, as is the case in branch bundle block, but rather to a slowed spread of the process through both ventricles.

The other changes in the Q-R-S wave that we wish to discuss are those in which the R wave fails to reach the base line or the S wave extends above this point before giving off the T wave. We found no examples of this which are so clear-cut as those published by Cohn and Swift.[4] In 10 patients, we found slight evidence of this change. In several of these it appeared

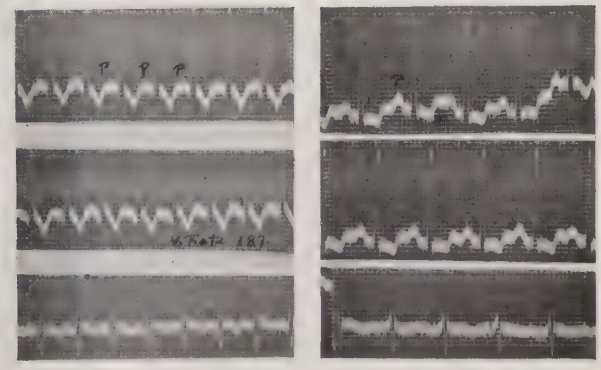

Fig. 10. Two groups of tracings from the same patient during and after paroxysmal tachycardia. It is difficult to be certain of the origin of the tachycardia, but it seems most likely to be the ordinary auricular variety.

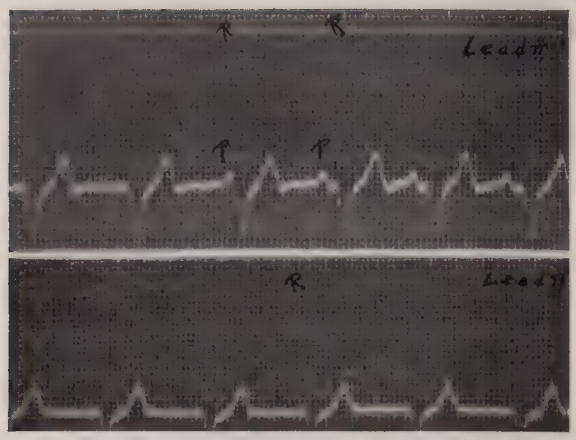

Fig. 11. Two tracings exemplifying ventricular escape or A-V dissociation. In the lower strip no P waves are seen. In the third cycle of the top strip the P wave is seen emerging from the ventricular complex, and is seen to have the same shape as the sinus P waves that succeed it. This happened whenever the rather marked sinus arhythmia reduced the auricular rate below 69 per minute.

after what had formerly been an S wave had disappeared and left in its place a slight notch near the base of the descending limb of the R wave. In our own examples, this disturbance has for the most part been so slight that we are not certain the curves depart from normal. The one case in which the change was definite is shown in figure 8. We have encountered such slight changes in other conditions than rheumatic fever, and in hearts regarded as normal.

Changes in the R-T or S-T interval. In studying the line between the end of the R or S wave and the beginning of the T wave, it must be borne in mind, as Cohn and Swift have pointed out, that this line in the normal is not necessarily absolutely flat, but may have a slight upward slope, the beginning of the T wave being marked merely by an exaggeration of this upward slope. In a great number of normal tracings it is impossible to see an absolutely flat iso-electric line in the interval between the end of the R wave and the beginning of the T wave. Cohn and Swift found in their series of rheumatic cases that this normal upward slope might be exaggerated or might change its direction from time to time. They found these alterations to be prolonged at times beyond the point at which the T wave should begin, resulting in abnormally shaped, bizarre, and even notched T waves. The same changes were observed by Rothschild, Sacks, and Libman.

In 14 of our 43 cases we found these changes in slight or marked degree. In figure 7, the S-T interval forms a definite upward convex curve when the rather pointed upright T wave comes in. The resulting wave is a very bizarre and odd one. In figure 7, the same process results in a notched T—again a very odd shape for this usually simple wave. We have recently encountered the same thing in hyperthyroidism.

Changes in the T wave. Inversion of the T wave has been reported as a fairly frequent occurrence. In 11 of our cases it was inverted in lead 1 or 2 or both at some stage of our observations (see figure 13).

Changes in rhythm. As mentioned in the beginning of this paper, almost all the ordinary arhythmias have been met with during rheumatic fever, and have been reported by the authors we have quoted or others. In our patients we found auricular extrasystoles once and ventricular extrasystoles four times. True A-V nodal rhythm was found once, while A-V dissociation with a faster ventricular than auricular rhythm was met with twice. In figure 11 is shown an example of the latter disturbance. In our other example of A-V dissociation occurring during rheumatic fever, there is some doubt that the disturbed rhythm was due to rheumatic fever, inasmuch as the patient was receiving digitalis. We failed to find auricular fibrillation or flutter as a transient disturbance in any of our patients. Auricular paroxysmal tachycardia occurred in two (figures 7, 8, and 9). It occurred once in a very ill patient, lasted 52 hours, and probably was a factor contributing toward his death. The other patient in whom it occurred was not very seriously ill.

Changes in the shape of the P wave. When the predilection of the specific lesions of rheumatic fever for the auricular endocardium and muscle, as pointed out originally by MacCallum,[8] is recalled, one would naturally look to the auricular wave for changes during the acute stages of the disease. Other writers on this subject have not commented upon this finding, but in our 43 cases we found notched P waves a rather striking and very frequent finding, being definitely present in 23 cases (see figure 12). In determining the presence of notches in this wave the fact of its smallness and lack of architectural distinction and its ease of distortion by extraneous elec-

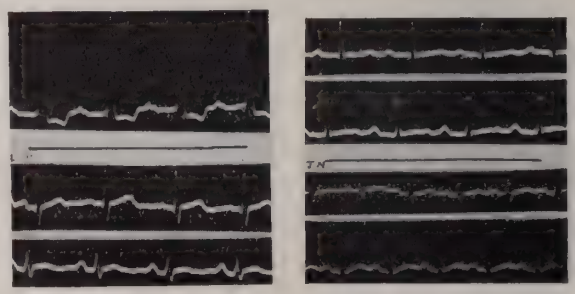

Fig. 12. Notched P waves. Tracings from four patients showing different types and degrees of notched P waves. Lead 2 alone of the first patient is shown. For the other three, both leads 1 and 2 are presented.

trical disturbances must be borne in mind. In some instances we were able to see a notch develop. In other instances notches changed their shape. We never were able to find a notch disappearing once it had shown itself.

Discussion. Our studies corroborate those of others in the high percentage of electrocardiographic changes found during rheumatic fever. One or more of the disturbances discussed were found by us in 36 of our 43 cases. In our present state of knowledge, all of these alterations are to be regarded as abnormal, and as such must be taken as evidence of some change within the heart muscle. Whether these disturbances are the result of toxemia or the result of the Aschoff bodies directly, or indirectly their result through temporary edema or ischemia cannot be answered at present. The usual transience of the changes is confusing. However, the existence of so definite a lesion as the Aschoff body makes it seem probable that it is this which is in some way responsible. It seems to us that the occasional persistence of notches in the P or R waves can be taken as slight evidence in favor of the specific lesion being in some way the cause of the electrocardiographic findings.

As pointed out by Cohn and Swift, the frequency of these disturbances has helped to emphasize the high percentage of cardiac involvement in rheumatic fever, even in the absence of certain physical signs by which this formerly was recognized.

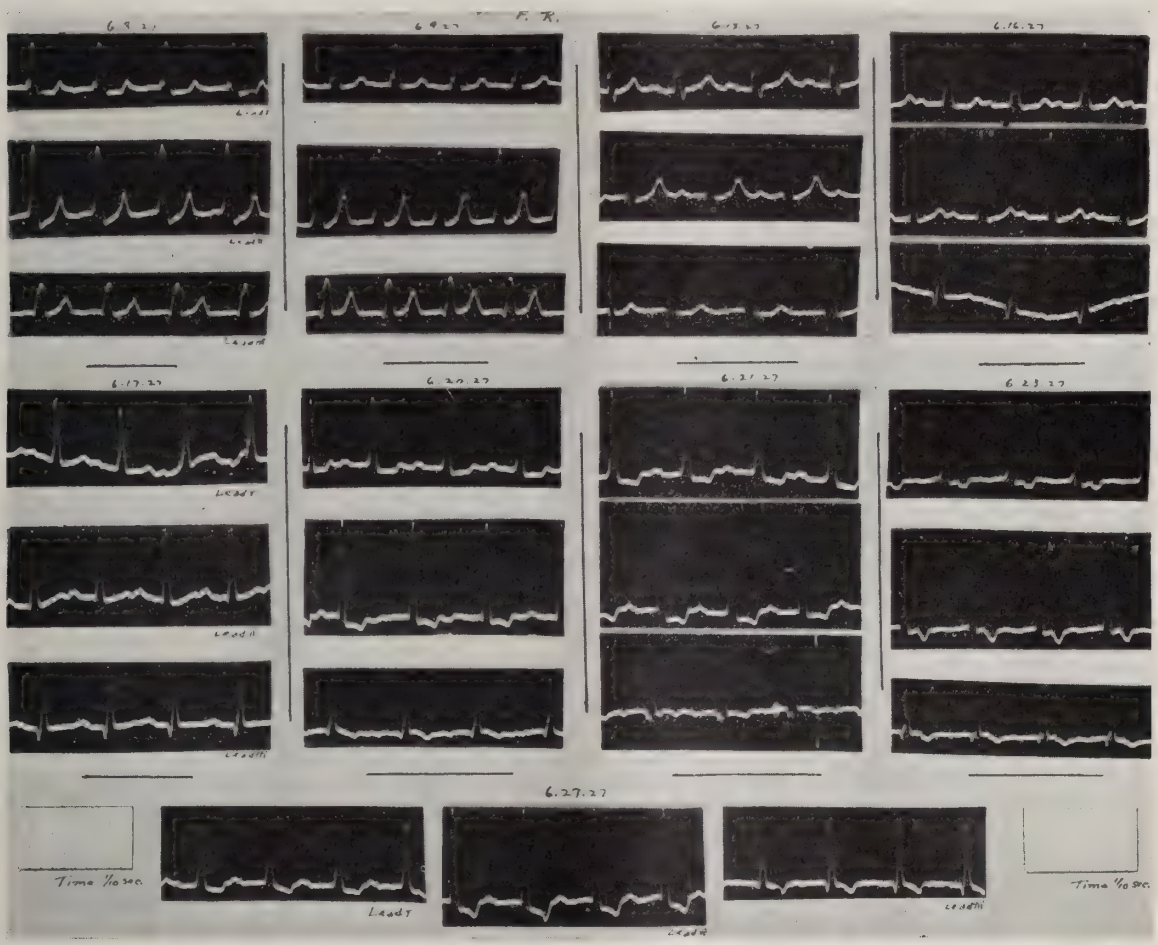

Fig. 13. A series of nine electrocardiograms of the same patient obtained within a period of twenty days. They show: prolonged P-R intervals which suddenly change their duration; notches in the Q-R-S waves that change their position and character; notched P waves; inversion of the T waves; and widened Q-R-S complexes that gradually shorten their duration without any conspicuous change in the architecture of the primary ventricular deflections. These tracings were taken on an instrument that depends on a constant speed motor for the determination of time intervals.

Summary. (1) The high percentage of patients who show electrocardiographic changes during rheumatic fever that has been reported by other workers is confirmed by our studies on 43 patients. Some disturbance was found in 36 of these patients.

(2) Extrasystoles, A-V rhythm, A-V dissociation, auricular paroxysmal tachycardia, various grades of A-V heart block, changes in the shape of the Q, R, S, and T waves and in the R-T and S-T intervals were all met with.

In addition to these previously reported changes, notching of the P waves was found by us to be present in slightly more than 50 per cent of our series.

(3) The transient nature of these disturbances was noted in our studies, as others before us had noted them. Just how suddenly they may come and go was strikingly illustrated by one of our series whose P-R interval grossly changed during the taking of a single tracing.

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ABSTRACT OF DISCUSSION

Of Symposium on Rheumatic Fever

Robert G. Torrey, M.D. (Philadelphia, Pa.): It is necessary to emphasize the prevalence of rheumatic fever and the economic importance of rheumatic heart disease in the temperate zones. The frequency of this condition may be shown in the general medical ward in any large hospital. It will be found, as a rule, that a large portion of the patients are there because of cardiac decompensation, and that of these, at least half are suffering from the effects of rheumatic disease of the heart.

In economic importance, it may well be compared with cancer and tuberculosis. Cancer is a scourge, but it affects the mature individual. His brief year or so of dependency follows decades of useful life, while rheumatic heart disease affects the young and immature, and may mean years of partial or total helplessness. Tuberculosis is a menace, but its incidence has shown a steady though slow decline coincident with a general understanding of the mechanisms of infection and the necessity of lessening infection and raising resistance. The widespread interest in antituberculosis measures which has been so active during the past twenty years stands in strong contrast to the lack of realization of the seriousness of rheumatic heart disease, which has not shown a decrease in incidence. The relation of slight rheumatic infection to the development of cardiac affection is appreciated sufficiently by neither the medical profession generally nor the public, and the importance of this disease is not adequately stressed in our schools of medicine nor by our public-health officials. So-called acute articular rheumatism should no longer be regarded as either acute or articular, but must be considered as a chronic infection with acute exacerbations which affects the heart to a profound degree.

Dr. Small's work is of great interest, and seems important in several phases. Whether or not the particular streptococcus which he has isolated and identified has been observed previously is not an important question. He appears to have furnished the means of identifying a particular species which seems to have a connection with the occurrence of rheumatic fever in the individual and to have done extensive work with this organism.

In certain phases of rheumatic fever, an effective antiserum may be valuable, but passive immunity conferred by such a serum is of short duration, and rheumatic fever is a chronic disease in most instances. It is to the production of active immunity that we must look for help in this problem. If, as there seems reason to believe, there is the possibility of developing a practicable vaccine, then a step of the greatest importance will be achieved.

Judson Daland, M.D. (Philadelphia, Pa.): Although a serum is of great importance therapeutically, the discovery of the cause of rheumatism is of far greater fundamental importance.

Dr. Stroud (in closing): All we have to offer in treatment of children affected by rheumatic cardiac disease is rest and good nutrition; yet the activity of the organism apparently continues for five years. A vaccine that will shorten this period will be received with gratitude.

Dr. McMillan (in closing): The electrocardiographic changes in rheumatic fever confirm the evidence furnished by other methods of study that in every such case the heart is involved. This involvement is not always found by the older methods of examination, but the electrocardiogram will reveal signs of profound damage in fully 90 per cent of the cases.

Dr. Small (in closing): We have been given every facility in the Philadelphia General Hospital for the pursuit of this study, and I feel great responsibility in putting the results of it before the medical profession. At the present time, in spite of careful self-criticism, each day we are finding additional evidence of its great importance.

PULSATING EXOPHTHALMOS*

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In 1908 de Schweinitz and Holloway[1] published an admirable essay in which they dealt with the case reports of pulsating exophthalmos that had been published up to July, 1907. Their treatise was based on an analysis of 69 case histories. In 1914 Bedell[2] published a case report with additional references. Zentmayer,[3] in 1916, gave an instructive presentation of the subject before the eye section of the American Medical Association, reporting cases of his own and reviewing some from the literature. The subject is of such importance that ophthalmologists and others should sustain their interest, continue to report cases, and express their views as to methods of treatment.

Case 1.—Mrs. D. R.,[4] aged 62, was referred on December 8, 1921, with a diagnosis of orbital cellulitis, dependent on purulent infection of her nasal accessory sinuses. She gave a history of good health until one year before, when she became short of breath and was treated for myocarditis. There was no history of traumatism. For the past three weeks her left eye

* Read before the Section on Eye, Ear, Nose, and Throat Diseases of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 5, 1927.

had become prominent, with orbital swelling, tenderness, and discoloration. She complained of a "hammering" sensation and constant moderate pain on the left side of the head, with intermittent attacks of excruciating pain. There was palpable pulsation on pressure on either globe, more marked on the left side. A definite bruit could be heard anywhere on the head, but loudest over the orbital region on the left side. This was reduced by pressure on the left internal or common carotid. A diagnosis of pulsating exophthalmos was made.

The general arterial system showed advanced sclerosis. The Wassermann test and urinalysis were negative; the blood pressure, systolic 185, diastolic 110; the nasal accessory sinuses negative; and the ophthalmoscopic examination negative. The x-ray report was as follows: "The plates indicate marked pansinus mucosal thickening. Tumor of the sella must be considered. Something in the line of the sphenoidal body (probably on the left side?) which interferes with the lateral projection of the sella."

While under observation for one week, all the symptoms became more pronounced, and after a consultation, ligation of the left common carotid was advised. Under novocain anesthesia, complete ligation with catgut was performed. Prompt and entire cessation of the bruit resulted from the ligation, and on the operating table the patient lost consciousness, which was not regained. Gradual but not complete recession of the globes followed, but right-sided hemiplegia developed and persisted. There was a gradual rise in temperature to 103°, and the patient died thirty-nine hours after operation.

This case is reported especially to bring out the danger of complete ligation of the common carotid. An autopsy could not be obtained.

February 23, 1921, a patient with an exceedingly interesting history consulted me. In this case a bruit developed four years after an accident, following transient diplopia, and there were transient attacks of blindness in the eye contralateral to the exophthalmos. The x-ray showed a peculiar enlargement of the sella turcica. The case was reported at a meeting of the eye section of the New York Academy of Medicine held March 21, 1921, as follows:

Case 2.—The patient (A. F. G.) is a male, 31 years of age, a truck driver. He was in a motorcycle accident on October 24, 1914, at which time he fractured his jaw. Transient right facial paralysis and right ptosis followed the accident. Recovery from both was complete, but an annoying diplopia resulted which lasted for six or seven months. Again, in the fall of 1916, following physical exertion, there was an attack of diplopia, which persisted for about six weeks. In April, 1918, he enlisted in the army and was discharged December 22, 1918. Two days after discharge, he became ill of pneumonia, and during recovery, the patient developed diplopia again, accompanied this time by a distressing bruit. Both diplopia and bruit have persisted to the present time, but both are becoming less and less troublesome. The patient is driving trucks successfully. At irregular intervals since the bruit developed, there have been attacks of blindness in the right eye, each lasting three or four minutes.

Present condition: Vision is 20/20 in each eye without correction. There is marked dilatation of the bulbar conjunctival vessels, particularly the veins, worse in the left eye. The pupils are equal in size and have normal reactions to light and accommodation. The retinal veins of the left eye are dilated but not tortuous. Otherwise, the interior of each eye appears normal. There is no appreciable dilatation of the veins of eyelids, forehead, or face. There is complete paralysis of the left 6th cranial nerve, with resultant convergent strabismus. The Hertel exophthalmometer readings are for the right eye 17 mm., and for the left 21 mm. There is definite palpable pulsation of the left eye, and this becomes visible under slight pressure by the fingers. When the patient leans forward, there is no increase in the exophthalmos. There is a distinct bruit heard everywhere over the head, possibly loudest over the left mastoid region. The bruit can be made to disappear by firm pressure on the carotid. The blood pressure is systolic 115, and diastolic 65. The Wassermann test is negative. The patient is relatively comfortable when he remains quiet, but feels weak and is annoyed by the bruit when he exercises.

Dr. George S. Dixon has submitted the following x-ray report: "I beg leave to report in the case of A. G. that his sella is large, measuring on the plate 12 mm. deep x 18 mm. anteroposteriorly. Measured by the planimeter and corrected for distance, the content is 150 sq. mm. The dorsum shows considerable erosion behind, including the base of the posterior clinoids, but while they are thin they still retain a long forward curve. That is to say, whatever has been happening, the pressure has been down and back, acting on the posterior part of the dorsum and base of the clinoids without apparent excessive pressure on the upper part of these processes. His frontals are clear and of moderate size. His ethmoids are thickened. The nasal septum is badly deviated to the right. The antrum is fairly clear, the left cloudy. The lateral plates show all sinus regions cloudy."

In this case it is possible that an aneurysmal dilatation of the internal carotid in the cavernous sinus persisted from the time of the accident, causing the recurrent diplopia, and that further weakening of the artery wall was occasioned by the pneumonia, causing further dilatation of the sac wall, with or without rupture of it.

In a number of cases besides the one just cited, the sixth cranial nerve has been the one especially involved. The reason for this phenomenon is evident. The abducens nerve enters the cavernous sinus through a small perforation in the dura well below the level of the tip of the petrous portion of the temporal bone, and passes forward through the whole length of the cavernous sinus, then through the sphenoidal fissure in its lower, nasal part near the ophthalmic vein, thus entering the orbit to supply the external rectus of the eyeball. The course of the sixth nerve in the cavernous sinus is different from that of the third and fourth, which supply the other muscles of the eyeball, in the length of its course and also in its position. The sixth nerve enters at the posterior wall and passes forward through the blood of the sinus supported by a

delicate meshwork of fibrillated fascial tissue and sympathetic nerves, and lies in contact with the internal carotid artery, between it and the outer wall of the cavernous sinus. The third and fourth nerves enter the sinus considerably farther forward than the sixth, and lie in contact with the external wall and only in the anterior part of the sinus, and thus are less within the sinus both as to length of course and as to position.

Dr. DeWayne Hallett has been kind enough to provide complete notes on a case of pulsating exophthalmos seen with him, but details will be omitted, as Dr. Hallett expects to publish a complete report of the case a little later.

Case 3.—The patient (Mrs. N. F. Q.) was injured in an automobile accident November 1, 1926. A diagnosis of left pulsating exophthalmos was made November 12th. On February 1, 1927, the left common carotid was ligated, and the patient had a transient paralysis of the right side of the body. I first saw her with Dr. Hallett on February 25, 1927. At that time she was conscious of a rhythmic blowing sound in the head, but with the stethoscope the bruit could be heard only over the nasal portion of the upper lid and along a sharp line above it on the forehead. Above the orbital margin it was strikingly localized along the course of the frontal vein, which communicates with the superior ophthalmic. The superior ophthalmic vein was ligated on April 13th. The operation was followed by an increase in proptosis, pain, and prostration. On September 26th, the patient went to Dr. Hallett's office. She walked with difficulty, the right foot turning inward. The muscles of the right arm were atrophic. There was no bruit, and no head symptoms were present. The vision of the left eye was 20/200 with concentrically contracted field and central scotoma. The right eye had normal vision.

In this case the ligation of the common carotid stopped the bruit, but it recurred after fourteen days, sharply localized along the frontal tributary to the superior ophthalmic vein, and ceased after ligation of this vein.

I am indebted to Dr. Julius Wolff, of New York, for notes on an instructive case which I saw with him. In this case, pulsation and bruit developed some time during the first seven days of observation, and perhaps nine days after the onset of severe subjective symptoms. Discovery of pulsation and bruit saved the patient from an incorrect diagnosis, but she died after ligation of the second common carotid artery, in spite of an attempt at caution on the part of the general surgeon. It is of importance to realize that the bruit may delay in manifesting itself, while intense subjective symptoms are raging and the aneurysmal process is progressing. Delayed observation of pulsation has been reported in connection with other cases, possibly due in some instances to a technical omission in observation. In some cases pulsation is manifest on ordinary inspection and light palpation, but in others the globe must be pressed back into the orbit with the fingers in order to feel or see pulsation movements. This maneuver should not be omitted if there is any uncertainty.

Case 4.—Mrs. M. L., aged 51 years, on December 21, 1925, gave a history of intense headache at intervals for years. Some years previously she was supposed to have had ptosis of the right eye, which cleared up; cause unknown. A Wassermann test of recent date was negative. Her eyes had been under observation in New Orleans, but merely glasses had been prescribed. She had always been subject to severe train sickness. She left the South on December 17th, and became very train sick, vomiting intensely the next day. She felt "something give in her head," and immediately had severe pain in the left frontal and temporal regions. Her left eye closed and bulged forward, and the pain continued. Vision apparently was not impaired. On examination, complete left ptosis was found. The exophthalmometer reading at 100 was 18 mm. for the right eye and 24 mm. for the left. The left pupil reacted sluggishly to light but was not dilated (the patient had had much morphin). All branches of the third nerve as well as the fourth and sixth were very paretic but not completely paralyzed. The fundi were normal except for a slight blurring of the lower margin of the left disk. The veins were not tortuous, and there was *no pulsation of the globe nor bruit.* The provisional diagnosis was hemorrhage into the back of the orbit infiltrating the region of the sphenoidal fissure. Wet compressive dressings were applied.

December 22d there was a slight chemosis of the conjunctiva. The bulging was no greater, but the ocular movements were almost completely lost. There was much severe spontaneous pain above and behind the eye and tenderness (ciliary pains), but no sensory disturbance in the face. The tension of both eyes was normal to the fingers. On the 26th, a little free blood appeared beneath the conjunctiva, with slight chemosis. Considerable pain was still present. The eyeball was immovable, the fundus unchanged. A test for central scotoma was negative. The patient was able to tell time on a watch promptly with her glasses. Examination of the nose showed a high deflection of the septum to the left, but after shrinking with cocain no secretion was observed. On the 27th, a stethoscope applied to the left eye revealed a distinct bruit and pulsation of the eye, proving the diagnosis to be arteriovenous aneurysm of the left side.

December 28th the patient was admitted to Mount Sinai Hospital. Her pain was intense, her pulse 46 to 52, and all the deep reflexes were slightly exaggerated. Ligation of the left common carotid artery was done under a local anesthetic. Two strands of chromic catgut were passed around the artery and a Ballance knot tied, constriction being made slowly. There was no untoward effect from the ligation. There were, however, immediate beneficial effects. The pulsation and bruit disappeared, the eyeball receded in part, and the pain decreased. The deep reflexes on the left were slightly more active than on the right. The right eye could soon be opened and moved more readily than before the operation, probably on account of freedom from discomfort in the left eye. The lid of the left eye became less edematous, and the chemosis was limited to a small strip in the palpebral fissure. The eyeball was no longer pressed firmly against the lids. There was no pulsation. With the exophthalmometer at 100, the reading for the right eye was 19 mm. and for the left 24 mm. The fundus showed some fullness of the veins and some retinal edema, especially below the disk, but less than

yesterday. There was no motility of the globe, and the ptosis was still complete.

On December 29th the exophthalmometer reading at 100 was 19 for the right eye and 22½ for the left. The edema of lids and conjunctiva was almost gone, and the edema of the retina also nearly subsided. There was no motility of the globe, *no pulsation*, and *no bruit*. On the 31st, the exophthalmometer reading at 100 was 19 for the right eye and 24 for the left (increase). The fundus and motility were unchanged. January 1st the bruit over the eyeball was more distinct. No pulsation of the eyeball could be seen. From January 2d to 7th the exophthalmos and bruit gradually increased, and the bruit was heard over the left eye. On the 9th it was also heard faintly over the right eye. If the right common carotid was compressed, the bruit ceased in the left eye and did not return for several seconds. January 9th to 15th, daily compression of the right carotid for five to fifteen minutes caused the patient no distress. By the 15th the left fundus remained unchanged, the veins were still distended, and edema was present. The bruit and exophthalmos had not decreased. The left eyeball could not be pushed back. There was no chemosis. January 16th, pressure on the left common carotid did not stop the bruit, while pressure on the right did.

February 6th the right common carotid was ligated (Elsberg) under a local anesthetic. A temporary ligature was put around the artery and the circulation shut off for fifty minutes while the patient was observed. No untoward symptoms arising, the vessel was ligated. The day following operation the eye appeared better and the bruit had gone. Two days after operation the bruit returned somewhat, and the patient complained of paresthesia on top of the head. On the morning of the fifth day after operation, the patient suddenly developed a complete left-sided hemiplegia, involving the face, tongue, arm, and leg. On the afternoon of the seventh day she was suddenly seized with generalized convulsions, lasting a half-hour. At 8.45 she suddenly went into pulmonary edema, and died within fifteen minutes.

The most interesting exophthalmic manifestations that I have seen presented themselves in a luetic patient with right pulsating exophthalmos which had been preceded by left nonpulsating exophthalmos (completely receded).

Case 5.—A male American 55 years of age presented himself at the eye department of Bellevue Hospital November 8, 1924, complaining of constant pain in and around the left eye and of diplopia, both of three weeks' duration. The vision was normal in each eye. The right eye appeared normal. The left eye showed impaired motility in all directions. There was proptosis of the left eye and edema of the conjunctiva. Physical examination brought out mitral stenosis, and vascular sclerosis of the atheromatous type. The blood Wassermann was 4+. Antiluetic therapy was pushed, and in addition x-ray treatment was given, starting December 23d. The proptosis gradually disappeared, while the retina showed hemorrhages and optic atrophy developed. Blindness of the left eye resulted. July 19, 1925, this patient appeared at Bellevue Hospital again with right pulsating exophthalmos. The exophthalmometer measurements were 23 mm. for the right eye and 16 mm. for the left. The vision was O.D. 16/40 and O.S. Nil.

October 22d, Dr. Harry A. Goalwin submitted the following report: "X-ray examination of the orbits and optic canals of J. Z. reveals the following condition: There is marked clouding of the right orbit. There has been a definite enlargement of the vertical diameter of the right optic canal since the last examination. This is not, however, the circular enlargement usually found in optic-nerve tumors. There has been a definite compression of the right sphenoidal sinus since the last examination, the compression having taken place from the region of the left cavernous sinus, downward and inward. The anterior clinoid processes are thinned and pushed upward. This combination of anatomic changes speaks for an aneurysm of the cavernous portion of the internal carotid artery and of the ophthalmic artery."

Following is an abstract of the clinical notes made at the time of the x-ray examination: At present this patient has a right exophthalmos of 10 mm. When the right eye is pressed backward with the fingers, a definite pulsation is palpable. There is a bruit, timed with the heart pulsations, which is heard most distinctly with the stethoscope over the right globe. The bruit is heard next most distinctly in the right temple, but transmitted over the entire head. Pressure on the right common carotid lessens the bruit but does not obliterate it, while pressure on the left common carotid has no appreciable effect. The patient is conscious of the bruit but is not distressed by it, and there is no pain nor headache. The eye movements appear practically normal, and blindness in the left eye prevents possible binocular diplopia. The veins of the conjunctiva, subconjunctiva, eyelids, and temple are dilated on the right side. Both pupils are moderately dilated, the right reacting sluggishly to direct light and the left consensually. Ophthalmoscopic examination of the right eye shows that the disk margin is indistinct on the temporal side and there is an edema of about a half-diopter elevation on the nasal side. The retinal veins are congested and tortuous. There are several small linear hemorrhages in and about the macula and in the equatorial region. In the left eye there is secondary optic atrophy. The vision in the right eye is 16/50 with correction, and the left eye is blind. The field for white in the right eye is moderately contracted concentrically. Probably the manifestations in this case are best accounted for by assuming a luetic process at the apex of the left orbit (likely gumma) which caused the left exophthalmos and loss of vision, and which yielded to treatment, allowing recession of the globe, while on the right side the pulsating exophthalmos is caused by an aneurysm of the left internal carotid artery within the cavernous sinus. The condition is essentially syphilitic.

January 8, 1926, ligation of the right common carotid was decided on, and preparatory treatment was started. Pressure was made on the common carotid for fifteen-minute periods several times a day. On April 20th, under gas-oxygen-ether anesthesia, the artery was ligated in two places with fascia lata from the patient. Each knot of fascia was reënforced with catgut. An attempt was made to shut off two thirds of the lumen of the artery. No untoward effects resulted. On June 16th, under novocain anesthesia, the partially ligated carotid was exposed. It was tied off securely with two chromic-catgut ligatures, and the artery was divided between the ligatures. The patient had no unpleasant after-effects. By June 27th, the exophthalmos was reduced about 4 mm. The bruit was audible but much diminished and heard only on the left side at times. By August 3d, the vision had improved from 20/50 to 20/30. The retinal hemorrhages had disappeared.

Several spontaneous cases of pulsating exophthalmos have been reported. Inside an aneurysmal sac, nature may attempt repair by laminated clot formation and organization, and in some

cases a complete healing process may take place. It is possible that obliteration or retardation of the pulsating blood stream through the carotid (by external pressure or by ligation) may materially lessen interference with nature in her process of healing by organization. A good mental picture of organization in the intracranial portion of the internal carotid can be gained by study of the autopsy findings in a patient who came to my clinic at the New York Eye and Ear Infirmary January 2, 1923, and who died from a profound anemia March 28, 1923. The case was reported by Kirby[5] in the *American Journal of Ophthalmology*. The aneurysmal mass occupied about the inner half of the middle cranial fossa. "The mass cut as if firm. It was composed of an external rim of whitish or cream-colored tissue varying in thickness from 1 to 3 cm. Inside of this, there was a large quantity of firm, greyish-red, partially organized blood clot. At the periphery were several rather large semilunar-shaped areas of recently clotted blood. Microscopic sections presented the picture of organizing blood clots and dense scar tissue."

Dr. J. M. Hitzrot, of New York, and Dr. Wells P. Eagleton, of Newark, in response to a request for their opinion of the best surgical method of handling pulsating exophthalmos, replied as follows:

Dr. Hitzrot (September 20, 1927): "I have operated upon nine cases of pulsating exophthalmos, with ten operations, one case being a bilateral ligation of the common carotid. Originally I did the ordinary ligation of the common carotid in one step. Recently I have done a partial obliteration, using a band of chromicized pig's bladder (Baer's membrane) which at the first operation is tied so that it cuts down the circulation to a very slight pulsation distal from the point of ligature. Later the artery may be tied completely if this does not suffice. This, as you see, is a modification of Porta's and Halsted's ideas, except that it does not use metal.

"In only one case of the four originally completely ligated were there any cerebral symptoms, and these disappeared quickly.

"I have used the modified method with the pig's bladder in five cases, one a bilateral case shown by Dr. Reese, and also reported by me in the *Annals of Surgery*. In the bilateral case a partial occlusion at both sides was sufficient to effect a cure. In two of the other six operative procedures it was necessary to tie the vessels completely after an interval of four weeks in order to effect a cure. Of the nine cases, one, while distinctly benefited, was not cured and could not be followed after a period of one year. All the others were cured up to the two-year period, and the bilateral case has remained cured five years after the operation.

"My only contribution to the matter has been the use of the chromicized pig's bladder as a method of occlusion which I believe in most cases becomes complete after a very short time. As in the case reoperated upon, there was a dense area of scar tissue about the vessel, and I think the necessity for the second operation was due to the fact that I did not reduce the amount of blood passing through the vessels sufficiently, or possibly the ligature slackened up and it was an error in the operation rather than the failure of the idea."

Dr. Eagleton (September 30, 1927): "In a general way I would say that ligation of the common carotid has given me most excellent results, although there is no doubt that some danger is attached to the operation. However, if it is done fractionally, that is, under local anesthesia with a piece of fascia lata, gradually tying the fascia and stopping the process if the patient complains of any sensory symptoms, it should be entirely without danger. I have tied the supra-orbital artery in the orbit once, through an incision above the eyebrow. It had no effect whatsoever. In one case, I turned back a Krönlein flap and put a clip over the ophthalmic vessel in the orbit, and the result was remarkable.

"My view of the matter is this: In pulsating exophthalmos the common carotid of that side should be ligated with fascia lata, according to the method of Kerr. This may not cure the condition, or it may cure it temporarily. If it returns, ligate again (this can now be done with safety), using tape so that the vessels cannot again become pervious. Ligation of the common carotid is safer than ligation of the internal carotid, as has recently been proved on anatomic grounds. This also is very much easier, although neither presents any difficulties. If it recurs in spite of the second ligation, ligate the opposite carotid, which I have done after a period of one year. Failing these, do a Krönlein and try to apply a ligation to the veins or vessels in the apex of the orbit. Of course this would be a failure if the tear is directly from the internal carotid into the cavernous sinus, which it frequently is, but it will succeed when the exophthalmos is due to aneurysm or dilation of veins or vessels of the orbit itself."

In discussing case 1 (Mrs. D. R.), the patient who died thirty-nine hours after complete rapid ligation of one common carotid, Dr. J. E. J. King said he did not think that immediate ligation of the common carotid was the most advisable procedure. He preferred to place a silver band about the artery and make compression, about halfway obliteration of the lumen, for a period of a week or so. If no untoward symptoms should develop, the lumen could be obliterated completely with the same band several days later. After this had proved that the blood supply could safely be diminished, the carotid could be permanently ligated and divided, and the silver band removed.

I think one may reasonably come to some such conclusions as these:

(1) Inasmuch as pulsating exophthalmos is essentially a progressive condition, practically all cases should be treated, even though the pain be negligible and the head noises be of little annoyance to the patient.

(2) Digital compression should be started as soon as the diagnosis is made. There is a remote possibility of repair of the arterial lesion by organization, and in any case compression is proper preparation for ligation of the common carotid. It may be safely practiced several times

a day for fifteen-minute periods. During the preoperative period, the surgeon should prepare himself by study of the subject, particularly familiarizing himself with methods of operation if he is not already posted. Too many operations have been performed by surgeons with little knowledge of the subject.

(3) If symptoms are severe prompt operation may be required, with a very short period of preparation, and generous doses of an analgesic (morphin) may have to be administered.

(4) Incomplete blocking of the common carotid on the affected (or worse) side by one of the methods suggested is usually in order, as a first operative step. Later, complete blocking may be effected, with section of the artery.

(5) If further relief is necessary, in a few weeks the second common carotid may be operated upon in the same way, after preparatory digital compression. If the bruit is localized in the region of the superior ophthalmic vein, this should be ligated in preference to the second common carotid.

(6) In any case in which the protrusion is considerable, secure adhesions should be made between the lid margins, and firm pressure should be applied with gauze dressing and pressure bandage. Thus protrusion can be held in check, and the cornea can be safeguarded. The pressure bandage is not safe without accurate apposition of the lid margins by sutures (if for only a few days) or by intermarginal adhesions (if for a considerable period). Three firm adhesions, perhaps 4 mm. long, would be reasonable to fulfil the needs of the case. Plaques of epithelium the size of the desired adhesions should be removed from the lid margins above and below in the middle, and midway between the middle and two ends of the palpebral fissure, and these denuded areas should be brought into snug apposition by double-armed sutures which pass through them, entering the skin surface of the upper lid near the margin and emerging through the skin surface of the lower lid near the margin. These sutures ought to be left in for five days, and the patient should not be allowed to attempt to open the eye for five days more. During at least this ten-day period, a firm pressure dressing should be kept on. Ordinarily the intermarginal adhesions should be left for several months.

(7) Postmortem examinations should be made in many more cases, and the pathology found should be reported in detail.

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ABSTRACT OF DISCUSSION

George E. de Schweinitz, M.D. (Philadelphia, Pa.): Since Travers reported the first case of pulsating exophthalmos in 1805 between three and four hundred additional cases have been recorded. Yet there is no general accord as to the best methods of treatment. Immediate complete ligation of the common carotid, although not a difficult surgical procedure, may have disastrous sequellæ—hemiplegia, softening of the brain, etc. The mortality is not inconsiderable, being 15 per cent in 150 reported cases which we analyzed twenty-two years ago. Doubtless this high mortality would not obtain in a similar series undertaken in the present period of surgical work. I have observed a cure, or at least marked relief, in a traumatic case as the result of intermittent pressure on the carotid faithfully maintained for a long time. It is a method probably more efficient in spontaneous cases than in those due to trauma. As a procedure preparatory to ligation of the larger vessels of the neck, it possesses definite value.

Orbital operations, that is, ligation of the superior and inferior ophthalmic vein and of the angular vein, have been performed with good results. In the monograph referred to by Dr. Wheeler, the speaker and Dr. Holloway recommended ligation of the distended superior ophthalmic vein as the operation of choice should the ligation of one common carotid fail, rather than ligation of the other carotid. We were unaware at the time that such ligations had been followed by a fatal result; hence this recommendation should be modified. In our personal experience the result has been good in one case. One patient, a traumatic case, was greatly relieved by a gradual shutting off of the blood stream in the external carotid. I agree with Dr. Wheeler that a gradual closing of the common carotid, preceded by a period of compression, is a procedure which deserves recommendation.

It is difficult to understand how pulsating exophthalmos could be mistaken for orbital cellulitis. The characteristic symptoms may be caused by an aneurysm of the ophthalmic artery, a vascular tumor of the orbit, an extra-orbital aneurysm of the internal carotid, or an aneurysm of the internal carotid. The most frequent etiologic lesion is an aneurysmal varix of the internal carotid and the cavernous sinus; that is, an arteriovenous communication. I have once observed the usual symptoms of pulsating exophthalmos, unchecked by ligation of the common carotid, due to a spindle-celled sarcoma of the roof of the orbit far forward, the removal of which resulted in a perfect cure. Similar cases have been reported by other observers. Pregnancy has been an etiologic factor in a considerable number of the so-called spontaneous, that is non-traumatic, cases.

Palsy of the exterior ocular muscle is common. Most often the abducens is involved. Engorgement of the retinal veins is frequent, almost constant, and sometimes retinal hemorrhages occur. Elschnig reports glaucoma as a complication.

SENILE MACULAR DISEASE

Its Evolution, Diagnosis, and Treatment*

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This paper concerns itself with certain lesions in that small area of a faintly yellowish color, at the posterior pole of the eye, the *macula lutea,* with its central depression, due to thinning of the retina, and further distinguished by an absence of the rods—the *fovea centralis.* Uncrossed by ophthalmoscopically visible retinal vessels which fringe its circumference, it is none the less highly vascularized by a meshwork of larger and smaller looped vessels, detectable by injection methods, except centrally, where a nonvascular region obtains.

This circumscribed space, the macula lutea, as we know, possesses "the most delicate anatomical structure of any of the tissues of the eye, and hence is specially vulnerable" (Fuchs). It is subject to manifold pathologic processes of various causation, at all ages of life. But the present essay deals solely with those which pertain to the "senile macula," to use a common, albeit somewhat loosely constructed term; such lesions, in brief, as arise in the period of senescence, fifty years and beyond.

Although much has been written and published concerning senile macular changes, both from the clinical and pathologic standpoints, it is a fact that this intractable affection has received in most of the textbooks less particularized and classified attention than its importance demands.

For convenience, the clinical varieties of the so-called "senile macula" may be arranged into four groups, although such a classification does not illustrate all of the various manifestations of this disease.

Group I. In the very early stage the macular area may exhibit features which differ only slightly from those common to elderly people: a color darker than normal, a faintly muddy hue, or delicate mottling. Later, close focusing reveals a number of brownish-black granules interspersed with others which are light-colored. Occasionally there are white glistening spots which have often been mistaken for Gunn's dots, with which they have nothing in common.

Group II. It is probable that this group should be regarded as an advance of the conditions described in the previous one—in short, a later stage. The retina, exclusive of the affected central area, is practically normal, although peripheral pigmentation is sometimes visible, and here and there whitish or yellowish-white spots may be seen, which are "crystallized outgrowths" (druses) from the lamina vitrea. These are unaccompanied by pigmentation, are common in the eyegrounds of elderly and aged people, and of themselves are of no serious import. In the macular area are small yellowish-white spots, interspersed with pigment dots and minute hemorrhages, or irregular shallow erosions, which may go on to atrophy of the elements, and slight pigment heaping. Sometimes there is pallor of the temporal half of the disk. The manifestation may be, as Haab pointed out many years ago (1885), a collection of smaller or larger, occasionally papilla-sized, yellowish-red or whitish, and also darkly pigmented spots, confined to the macular area, without signs of choroiditis in other parts of the fundus (Haab's type). In general terms, to this group of senile macular changes the descriptive title "moth-eaten macula" has been applied.

Group III. This manifestation as a senile macular disease is uncommon, but as the result of other etiologic factors it is not infrequent, and its chief distinctive feature, no matter what the associated or causative agent may be, is well-nigh unvarying. Detected by Henry D. Noyes,[1] and called "laceration at the macula lutea"; noted casually by F. W. Hoffman;[2] fully described by Haab as "die traumatische Durchlocherung der Macula lutea";[3] reported on by H. Kuhnt[4] and named "retinitis atrophicans sive rarificians centralis"; classified and depicted in a series of cases, his own as well as those of English confrères previously reported, by F. Menteith Ogilvie,[5] and entitled by him "holes at the macula," this well-known lesion at the posterior pole of the eye in the majority of cases is due to concussion and other types of trauma. Its familiar features are: a round or slightly oval "hole" about one half the size of the disk, with sharply marked edges, the margin being slightly gray or greenish. The lesion is depressed below the level of the surrounding retina, its bottom of a dark red or reddish color, and stippled with white and red spots. A zone of the surrounding retina may be hazy, suggesting edema, or thrown in delicate radiating pleats, or it may contain scattered white and dark spots.

This lesion would not now receive this notice were it not for the facts that although trauma, as stated, is by far the most frequent cause, and that it may be a sequel of a nontraumatic iridocyclitis or uveitis, depending upon a toxin which filters through the vitreous, and that it may develop in association with iridochoroiditis,

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neuroretinitis, nontraumatic retinal detachment, and pigmentary degeneration of the retina, it not infrequently does arise spontaneously in old people, as Haab, Kuhnt, and the writer have shown, without traumatism or any other of the factors named, probably due to arteriosclerosis. It therefore deserves place as one of the rarer manifestations of "senile macular changes."

Group IV. To this group belong those eyes which gradually develop at the posterior pole a heaped-up area of exudates, grayish or greenish, in association with recurring hemorrhages. When the greenish-gray exudate is pushed far forward, it may have a tumorlike appearance. To such gross lesions Coppez and Danis have devoted much attention in their several communications,[6] and have proposed the name "senile macular exudative retinitis." It would seem that some of the cases described by P. Junius and H. Kuhnt in their admirably illustrated monograph, "Die Scheibenförmige Entartung der Netzhautmitte," belong to this group, which, however, they regard as a separate clinical entity, to which the descriptive word "senile" is not applicable. It is quite evident that such macular disease has nothing in common with "exudative retinitis" (Coats's disease; massive retinal exudation) or with angiomatosis of the retina (von Hippel's disease).

I have watched one patient, aged 73 at the time he reported, whose eyes certainly belonged ultimately to the group described by Coppez and Danis, from an early period until the huge masses in the macular areas formed, more rapidly in the right eye than in the left. When he first reported, the typical appearance of senile macular changes, as described in Group I, were present, with a relative central blue scotoma in the field of the left or less affected eye, and with an absolute color scotoma in that of the right field; also right metamorphopsia. Four years elapsed before the large greenish-white exudate was fully formed in the right eye, and five years before the same condition, always less marked, appeared fully developed in the left eye. The elevation was 3.5 to 5 D., and there were periods of recurring hemorrhage.

The Coppez-Danis type begins with the development of a central scotoma, circular or oval, no metamorphopsia, and "negative" ophthalmoscopic examination (it is not stated what type of macular ophthalmoscopy was employed, or whether macular color perception, especially for blue, was tried with a series of small test objects). Later, a series of discrete yellowish-white points appear in the external layers of the retina, and finally, after a long period, the exudation and recurring hemorrhages arise: The patients were all old people. This corresponds closely, save in one particular, with the case I have briefly summarized, and I have seen at least two or three exactly like it. Coppez and Danis could find no cause. They thought the angiosclerosis was not beyond that which is common in elderly people.

Diagnosis

Referring now only to the first two groups, and for the moment to the earliest stage of the development of the senile macular changes, it should be remembered, as Haab pointed out long ago, that with ordinary ophthalmoscopic examination and without mydriasis, the lesions are not always easily detectable. Now, however, there is no excuse for failure to discover the presence of an abnormal macula, even though the pathologic changes are ill-defined. We have at our disposal red-free-light ophthalmoscopy, simple centric ophthalmoscopy with the slit or diaphragm lamp as the source of light, ophthalmoscopy with sunlight as the means of illumination (Jackson's method), and, perhaps better than all, the large Gullstrand ophthalmoscope, with its power of high magnification. I am sure that had these methods been available in earlier days, the diagnosis "amblyopia without fundus lesions" would not have been made, nor that of "fundus or macula normal."

While it is true that in these earlier stages the visual disturbance is often out of all proportion to the inconspicuous pathologic changes, it is also true that sometimes at this period, although direct sight is indistinct or slightly hazy, with corrected refractive error, the letters normal for the distance employed can be read.

Metamorphopsia, in its various manifestations, according to the degree and character of the disturbance of the retinal elements, is, of course, a common symptom, but not at all conspicuous in the early stages of this affection, and indeed, it may be absent; and it is just with this early stage that we are especially concerned.

Perimetry in such circumstances becomes a valuable method of investigation, and examination of the center of the field of vision may give information without, to use Traquair's phrase, the presence of a visible, or easily visible, corresponding retinal lesion. In other words, central relative blue, or blue-yellow, blindness, properly sought for, may be early detected. Now while, for example, the Rand-Ferree perimeter or the Lister instrument can be converted into a campimeter, such early defects are best exposed on the screen, preferably at 1.5 or 2 meters' distance, a graded series of small test

objects being employed, 2/2,000, 3/2,000, etc., or by means of Peter's excellent campimeter or Lloyd's stereocampimeter. Minute lesions of the central retinal regions may be interpreted in the center of the visual field by an area of functionally altered retina, considerably greater than is revealed by ophthalmoscopic examination. In short, central perimetry, which includes scotometry, is an important method of investigation for the detection of beginning senile macular changes, the relative blue scotoma indicating an early participation of the retinal elements, or retinal neurons, in the pathologic process.

Pathology

Senile macular disease of the ordinary type (Groups I and II) is essentially a degenerative process, the nervous and pigment layers being first involved. Later there is clinical evidence that the choroid may also participate in the pathologic changes. E. Fuchs,[7] utilizing the term "central senile retinochoroiditis," states that it occupies a place midway between degenerative and inflammatory processes, and this contention is maintained by M. Salzmann, in the fifteenth German edition of the notable book which he has edited.[8] Harms,[9] who had the opportunity of microscopic investigation of the eyes of a patient with senile macular disease of the Haab type (Groups I and II), found the lesions practically confined to the pigment epithelium and neuro-epithelial layer, with no participation of the choroid and no signs of inflammation—a purely retinal process.

A similar opportunity fell to the share of C. Behr,[10] and he confirms Harms's observations for the most part. He is satisfied that there were no evidence of inflammation, no definite signs of arteriosclerosis, and no indication of any fault in the choriocapillaris which might account for degeneration in the nonvascular epithelium upon which its nutrition depends. He advances the interesting suggestion that senile macular disease may be regarded as a special type of hereditary degeneration, depending upon a congenital predisposition to premature death of the macular retinal neurons. This suggestion has much to commend it. It is not uncommon to obtain from a patient with senile changes in the macula a history that father, mother, or other relative was similarly affected. "Hole at the macula" (Kuhnt's retinitis atrophicans centralis), although sometimes ascribed to inflammation, is really due to macular edema followed by cystoid degeneration.

Although the eyes with senile macular changes (Groups I and II) which have been examined microscopically have not revealed angiosclerosis, it is difficult to believe that vascular disease cannot be accused as an element in the pathogenesis of this trouble.* In the graver forms of the disorder, in general terms, central senile exudative retinitis, the products of exudation, albuminous and hyalin, gross macular changes, etc., are certainly in evidence.

Treatment

It is generally maintained that treatment is unavailing—that is, to quote a sentence from a well-known and admirable treatise, "therapeutically we are impotent in senile degeneration of the macula"; or, in the words of a recent edition of a standard textbook,[11] "the prognosis of this condition is favorable in that it does not produce total blindness, but, however, it is not influenced by any form of treatment."

Fully aware that remedial agents for these affections are far from satisfactory, and admitting that in certain types and stages of this disease they are practically useless, I am none the less unwilling to accept unreservedly the pronouncements cited—unwilling to be deterred from effort along remedial lines by therapeutic nihilism. With the picture and its component parts of the pathology of senile macular disease in mind, what likelihood is there of favorable results from remedial agents?

It must be an experience of all of us in the work of correcting presbyopia to see patients who at the first examination reveal no indication of trouble, obtain normal vision, but, coming later, at the expiration of one or two years, for a new correction, are found to have an early stage of senile macular disease (Group I). Hence, routine careful examination of the maculæ of presbyopes (after euphthalmin mydriasis, afterwards neutralized) is indicated, including a test of macular color perception (2/2,000 blue test object). It involves the expenditure of little time; it may anticipate impending events; there is a chance they may be checked; and those present may perhaps be favorably influenced. Moreover, presbyopes should realize the importance of periodic examinations, for instance, at half-yearly intervals, exactly as the laity are beginning to understand their value from the general standpoint.

Should the period of the later lesions of senile macular changes be evident when the first examination is made—the period of spotted macula, absolute color scotoma, metamorphopsia, etc.—diagnosis is plain. But even then there is an

* Van der Hoeve believes the lesions of Groups I and II are due to long-continued action of ultraviolet rays, transmitted through the lens without diffusion, thus exerting an injurious effect on the macula.

opportunity, possibly, to modify favorably the conditions—to check advance.

Years ago, as previously noted, before modern methods of centric ophthalmoscopy were available and quantitative centric perimetry was understood, the early stage of the pathologic senile macula was not recognized, and such diagnoses as "amblyopia without fundus change," and even "retrobulbar neuritis" were made. Such mistakes should now be practically impossible, certainly most unlikely.

Macular lesions due to discrete or conglomerate druses in the lamina vitrea, represent a process entirely at variance with the group now in consideration, but one must not lose sight of the fact that an admixture of such spots and the lesions of senile macular disorder may coexist.

With this introduction, we may consider the therapeutic agencies with respect to the initial and the developed forms of the disease as follows:

Local Remedies. Among these, dionin takes the first rank. We all realize that the action of this medicament is chiefly local, and, to use W. H. Snyder's phrase, "greatest where the drug has actually rested." By no one has the value of this remedy been better demonstrated than by Drs. Stieren and Linn[12] in their article on its intensive use, but with special reference to corneal scars, interstitial keratitis, and lime burns of the cornea. Its advantage in the treatment of various disorders of the uveal tract (active iritis, uveitis, choroiditis) is well known, as is its efficiency in helping to clear the vitreous of the associated opacities. But I am persuaded that it is not without favorable influence with relation to lesions in the retina, and therefore those which constitute the so-called senile macular disorders. Dionin is a lymphagogue, an analgesic (with which latter activity we are not now concerned), and probably has some influence in altering and conserving tissue nutrition. That it can maintain these physiologic actions upon tissue as deeply situated as the macula I cannot adduce definite proof, except that clinically it seems to be satisfactory; also, there is no evidence that such activities are not possible.

Each surgeon will naturally follow his own method of administration. Thus far, my own custom is to employ the drug in gradually increasing strengths, from 2 to 12 per cent, four times daily, until immunity is produced, when it is discontinued for three days, after which the series of instillations are repeated. Dosage, frequently of application, etc., must naturally be governed by the character of the reaction and the results.

Subconjunctival injections of physiologic salt solution, or, preferably, of sodium citrate solution (4 per cent, diluted with two parts of physiologic salt solution) have often been employed, but possess no material advantage over dionin, and in the last few years have been employed much less frequently than in former times. There is, of course, no objection to their trial. With fibrolysin injections I have had no personal experience. They have been recommended.

With the use of electricity (galvanism), although strongly advocated by a number of competent authorities in the treatment of various degenerative retinal disorders, for example, pigmentary degeneration and macular disease, my experience has been limited. I have no advantageous results to report; indeed, I have as yet no faith to record, though I am willing to be convinced.

I do not know whether phototherapy by means of its various methods of application has been specifically tried in cases of senile macular degeneration. As a therapeutic agent and with the aid of improved lamps, it has certainly demonstrated its value in certain ocular disorders; for instance, uveitis of tuberculous origin. Its influence in deeper areas—the central retina—is worth investigating.

Internal Remedies. Various preparations of the iodids and mercury have always been employed for their alterative action, to use an old-fashioned term, and for their influence in causing absorption of exudations. But in my experience, a mixture far better than either of them, alone or combined, is Donovan's solution (liquor arseni et hydrargyri iodidi). My respect for the value of this remedy, gained many years ago, when I served as the late Dr. William Pepper's house doctor, has never waned, and in ordinary senile macular disease of the degenerative type it serves a better purpose than any of the usual remedies with which I am acquainted, given continuously over long periods in doses which the patient can tolerate without discomfort, usually 10 minims, freely diluted, three or four times a day.

Because thyroid is a powerful factor in metabolism, it has often been employed, either as the dried gland or as an extract, in various retinal degenerative processes, even pigmentary degeneration of the retina, and naturally, in senile macular lesions. Parathyroid extract, according to recent recommendation, may be added to it. I have used thyroid extract in this disease very often, but never to the exclusion of other remedies, and therefore am unable to indicate with exactness its individual therapeutic advantage.

The satisfactory results of foreign-protein therapy in the control of subacute and acute infections are well established. It appears that this remedial agency is not without value in pathologic conditions not so strictly defined. Of the various foreign proteins available, dead typhoid bacilli have acquired a therapeutic reputation in such circumstances, for example, in the treatment of multiple sclerosis. Since senile macular disease is considered by some authorities, as before stated, to occupy a place midway between degenerative and inflammatory processes, the thought naturally arises that such a bacterin should be given a trial. I have as yet no experience in this respect, but simply advance this suggestion.

The subjects of the disorder in discussion not only belong to the period when they encounter that "most insidious of all diseases—old age," with its lowered power of resistance, but many of them have local or generalized arteriosclerosis. Naturally, resistance should be enhanced, and the best possible general state secured. Hence the necessity for eliminating any area of local sepsis —the so-called focal infections—in the teeth, the edentate gums, the tonsils (often small, shrunken, but still septic), in the intestinal tract, and, highly important in the male contingent, in the prostate. In elderly persons, even though toothless, the gums may harbor infection, and in one or two cases treatment along these lines, previously neglected, was followed by improvement, in the sense of a cessation of the crops of small hemorrhages. In no single instance did degenerated areas resume function, or pigment spots, etc., disappear, though the activities ceased. In one case, removal of a nonvenereally infected prostate was advantageous; in others prostatic massage and vaccine therapy.

In the exudative and advanced forms of senile macular disease, recurring hemorrhages are a notable feature. A remedy of some value in such circumstances is calcium chlorid, or preferably calcium lactate, 15 to 20 grains three times a day, to increase the coagulability of the blood. But its administration must not be too prolonged; otherwise precisely the opposite effect may obtain. It should be discontinued at the expiration of three or four days, and be again exhibited after a rest of six or seven days.

Although in the earlier stages of macular disorder (Groups I and II) careful correction of refractive errors improves vision, even though it does not eliminate lack of distinctness, in later periods it is of little avail. Sometimes telescopic spectacles are helpful, although they limit the size of the field, but increase distinctness of sight. It is claimed by some observers that prisms so adjusted as to displace the image from the diseased macular area to a point beyond it in one or the other direction may be of service.

With respect to Groups III and IV, namely, so-called senile central atrophic retinitis (Kuhnt) and senile central exudative retinitis (Coppez and Danis), the fully formed lesions are uninfluenced favorably by any of the remedial agents which have been recorded, although it may be worth while to try their effects in the hope of checking invasion of the surrounding retinochoroidal regions.

A few case histories, briefly summarized, are recorded, to illustrate the effect of the therapeutic measures mentioned.

Case 1. A man, aged 72, reported on July 6, 1920, with corrected vision in each eye 6/30, faint macular changes of the Group I type, a few fine white points, and one or two minute hemorrhages. The general examination was practically negative except for a series of boils which developed about the time he appeared for examination and a very moderate senile arteriosclerosis. The record states that at the first examination "no central color scotoma for blue was found," but this examination was made by means of an ordinary perimeter. Eight months later, however, the vision remaining practically the same, a careful campimeter investigation with graded test objects showed the typical relative blue scotoma, with a general loss of green sense over the whole field.

This patient received the dionin treatment steadily, in association with the internal administration of iodids, generally in the form of syrup of hydriodic acid. At the expiration of a little less than two years, the vision in the right eye had risen to 6/7.5 and in the left to 6/6, and there was no increase in the macular degeneration. At this writing, the vision is 5/12 with the right eye and 5/6 with the left. This is a slight slip backward, and yet a considerable improvement in vision as compared with that obtained when he first came seven years ago.

This case history illustrates the value of continuous treatment, in the first place; and in the second place, the importance of campimeter investigation with a graded series of test objects as compared with the ordinary perimetric work.

Case 2. A woman, aged 75, in unusually good health and with no fault of importance except infected tonsils, had, when she reported on May 11, 1922, corrected vision with the right eye of 5/30 and with the left of 5/5. Ophthalmoscopically, the right eye showed a macular collection of "colloid" spots (druses), in association with which were a number of dots, white and pigmented, such as are seen in the early stage of senile macular degeneration. In the left eye there was a similar collection of "colloid" spots, but none of the associated fine macular changes. In the center of the right field there was an oval-shaped relative scotoma for blue. The left field was perfect.

This illustrates the absence of the blue scotoma when the eye shows only "colloid" spots, and its presence when they are mixed with the macular degeneration. This patient was seen in

consultation, and has not been heard of since the first record.

Case 3. A man, aged 80, extraordinary well preserved and looking much younger than his years, complained of failing vision for about two years, which, when corrected, was 5/22 in each eye. He had typical relative scotomas for blue and slight metamorphopsia. Ophthalmoscopically, the lesions were of the later variety of Group II. Persistent use of dionin locally and Donovan's solution internally for three months improved the vision to 6/22. The patient has not been seen since his first visit, but reports from his physician indicate that he is holding his own. He is not materially helped by the use of stereoscopic spectacles. No general lesions were found in this case except a moderate prostatic enlargement. No treatment along this line has been utilized.

This case illustrates the type in which the process at least appears to become stationary, while prior to the treatment there had been a steady advance in degradation of vision.

Case 4. A man, aged 61, first reported on November 29, 1926, with corrected vision in the right eye of 5/22 and in the left of 5/12. There had been gradual failure of vision for three years. Infected tonsils had been removed, and cellulitis of the leg had been eliminated. There was a characteristic blue scotoma in the center of each field. After eight months of treatment, although ophthalmoscopically no change could be found, vision had improved to 6/22 in the right eye and 6/6 in the left, and the blue scotoma could no longer be found in the left field. The treatment had been iodids, Donovan's solution, and dionin.

This appears to be a good example of the value of treatment persistently employed which had little or no effect in the right eye but more than doubled the vision of the left eye, eliminating the blue scotoma.

Case 5. A woman, aged 62, with moderate hypertension but no nephritis, and with infected teeth and tonsils, in her right eye presented the appearance described under Group II, with a questionable faint relative scotoma for blue. The left eye showed similar macular lesions, and adjacent to them a large wedge-shaped scotoma for colors, with several saturated spots corresponding to a forming disklike exudate of the type that usually eventuates in the gross macular changes of Group IV. After eight months of continuous treatment with Donovan's solution and dionin, together with the elimination of the focal infections previously named, the corrected vision in the right eye remained 6/6 and the faint scotoma had disappeared. Vision in the left eye had improved to 6/9 (previously 6/15), but there was no change in the scotoma and ophthalmoscopically no visible change in the macula.

This appears to be a case in which the treatment at least checked the advancing degenerative process in the left macula and helped to prevent further development of similar changes in the right macula.

Case 6. A man, aged 75, on July 26, 1916, reported with failing close vision which, corrected, was 6/12 with the right eye and 6/6 with the left. In the right macula there were the typical senile changes of Group II; in the left, only a collection of druses—no scotoma. The patient had slight myocardial changes, moderate arteriosclerosis, no nephritis, but pyorrhea was present. Although under constant treatment, general and local, and elimination of the dental sepsis and nasopharyngeal trouble was carried out, there was a steady progression of the senile macular disease and particularly numerous recurring hemorrhages, more active in the left or previously better eye, and heaping up of exudate (Coppez-Danis type). At the end of five years (October, 1921) the vision was only eccentric—right 1/60, left 2/60. An enlarged prostate was removed, and subsequently for two years, or until the patient's death, the recurring hemorrhages ceased and there was slight contraction of the exudative process. The vision was: right 1/30, left 1/22.

This case seems to indicate that though the usual treatment had been unavailing, the activity of the process (especially the recurring hemorrhages) ceased after the prostatectomy.

While it has not been proved that the improvement noted should be ascribed to the line of treatment recommended, while such results might arise without the aid of medicaments or the removal of focal infection, and while the pathologic lesions were such that they strongly indicated that therapeutic measures had very limited possibilities, yet it cannot be doubted that the chances of success depend largely upon finding the earliest changes. This is the chief point I desire to make.

All of us have seen ill-defined areas of choroiditis between the macula and disk in persons of senior years which become inactive after removal of focal infections and the use of the internal remedies recommended. They are due to lesions of the choroidal vessels given off from the circle of Zinn which have involved the pigment epithelium rather than the retina proper. If this is true, and it is, why should not an early senile macular change, as described, be similarly influenced? I know that in this argument, if it may be so called, there are many weak points; and yet, why not try, no matter what the explanation may be?

This lecture was illustrated by lantern slides depicting the various types of macular disease.

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Case Report *

INTESTINAL OBSTRUCTION BY INVAGINATED MECKEL'S DIVERTICULUM

H. RYERSON DECKER, M.D., F.A.C.S.
PITTSBURGH, PA.

E. S., a boy of seven years, was admitted to the Presbyterian Hospital on February 19, 1924. His mother had died of pulmonary tuberculosis. In early childhood the patient had had measles and whooping cough, but no other illness until December, 1922, at the age of five years, when his appendix had been removed because of an acute attack. The recovery from this operation had been uneventful. A month before admission he had been ill in bed for two weeks, of an acute infection of the respiratory tract diagnosed as pneumonia. He had made an excellent recovery and had been back in school for several days.

On February 16th he complained of cramplike pain in the right lower quadrant of the abdomen, and was given a cathartic at home. This was not effectual, so catharsis was repeated the next day. Then the boy was sent home from school because the pains in the abdomen were worse. He vomited a small meal, and a cathartic was given for the third time. Then as he seemed much worse the family doctor was called. He diagnosed the case as intestinal obstruction, and advised hospital care. This was refused until the following morning, when, after a night of vomiting and the passage of a bloody stool and several stools of bloody mucus, the boy seemed seriously sick.

On admission, examination showed a well-nourished boy, severely prostrated, with facies suggestive of peritonitis. His temperature was 99.3°, pulse 120, and respiration 32. The eyes, ears, nose, and throat were normal, the tongue coated and dry, the heart normal, the pulse regular, but of rather small volume, and the lungs normal. The abdomen was slightly distended. In the right lower quadrant there was a well-healed, oblique operation scar. A visible mass, somewhat elongated, occupied nearly the whole quadrant, lying more or less transversely. The mass was tender, was more or less fixed by a deep attachment beneath the abdominal wall, and felt like a boggy loop of intestine. There was general tympany throughout the abdomen, and definite rigidity on the right side, though not marked, and more in the lower than in the upper quadrant. No free fluid was demonstrable. There was no visible peristalsis. Rectal examination was negative, except for a small amount of blood-stained mucus.

The laboratory tests were as follows: urinalysis—specific gravity 1.026, alkaline, faint trace of albumin, no sugar, a few red blood cells, a few white blood cells, and no casts; white blood count—15,800, polymorphonuclears 85 per cent, large mononuclears 9 per cent, small mononuclears 6 per cent.

The diagnosis was acute intestinal obstruction by intussusception, possibly associated with a band of peritoneal adhesions.

An hour after admission to the hospital, operation was performed under ether anesthesia, through a right-rectus incision. There were several ounces of blood-tinged fluid free in the peritoneal cavity. The mass was caused by an intussusception of the terminal ileum, sixteen inches long, and reaching to within two inches of the ileocecal junction. This was reduced without difficulty. The unusual feature was a Meckel's diverticulum at the antimesenteric border which had been invaginated, and completely blocked the lumen of the ileum. The diverticulum was an inch and a half long, an inch thick, rather dark in color, with edematous wall, and its peritoneal coat was covered with fibrin. The invagination was reduced with some difficulty by pulsion, and then the diverticulum was removed and the stump buried. The obstructed ileum was dark red in color, but the peritoneal coat was glistening and intact, so the abdomen was closed with a protective Morris drain to the peritoneal cavity.

For forty-eight hours the boy's condition was satisfactory. There was but slight distention, and only occasional vomiting. Gas was passed by rectum, and urine was voided in good amount. Normal salt solution and glucose solution given by proctoclysis and hypodermoclysis were well absorbed. On the third day after operation, the temperature rose and the pulse weakened progressively until death occurred seventy-four hours after the operation. Two hours before exitus there was a large, dark-red stool containing apparently a considerable amount of old blood.

At autopsy, a few recent omental adhesions were found, together with adhesions of terminal loops of ileum which had encysted small amounts of bloody fluid with a slight colon-bacillus odor. The last sixteen inches of ileum corresponding to the intussusception was dark in color and gray in spots. There was no evidence of perforation. The vessels of the adjacent mesentery were definitely thrombosed. The sutured site of the Meckel's diverticulum was intact. The mesenteric glands were considerably enlarged. A pathologic diagnosis was made of thrombosis of the mesenteric vessels, gangrene of the terminal ileum, and acute early peritonitis of the lower abdomen, Unfortunately, the diverticulum was destroyed without histologic examination.

Although Meckel's diverticulum is frequently a cause of intestinal obstruction, invagination of the process as a cause has been reported infrequently. Hertzler, up till 1913, had collected reports of forty cases in the literature.

In this case, at a previous operation for removal of the appendix, the Meckel's diverticulum was apparently overlooked. If it had been removed at that time, it is possible that the boy might have been spared the subsequent fatal obstruction. It would seem worth while to look routinely for a Meckel's diverticulum unless there is a specific contraindication such as peritonitis.

Vigorous catharsis administered at home and delay in obtaining medical and surgical help were important factors in the fatal outcome.

Death occurred as a result of gangrene of the ileum due to thrombosis of the mesenteric vessels supplying the obstructed ileum. This is usual. At the time of operation there was no definite evidence of the thrombosis, but it undoubtedly was then in progress. Resection of the terminal ileum might have been life-saving,

* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

though there is grave question whether the general condition of the patient would have justified an extensive operation.

A question of interest more or less academic is whether the invagination of the diverticulum takes place prior to or after the intussusception. In this case it is believed that the invagination occurred first and obstructed the lumen of the ileum, and that the intussusception followed, producing symptoms of partial obstruction over several days' time.

923 Westinghouse Building.

Symposium

On the Four Reasons Set Forth in Our Official Application Blank Why Every Qualified Physician Should Unite With a County Medical Society*

Every Qualified Physician Should Unite With a County Medical Society

BECAUSE IT UNITES THE REPRESENTATIVE MEN OF THE MEDICAL PROFESSION

WALTER F. DONALDSON, M.D.
PITTSBURGH, PA.

The official application blank offered to prospective members by component societies of the Medical Society of the State of Pennsylvania sets forth briefly four reasons why every physician should unite with the medical society of his county. The first of these reasons is "because it unites the representative men of the medical profession," the adjective "representative" meaning "typical."

Dr. William Osler, in speaking of the value to the practitioner of medicine of membership in a medical society, once said: "It is the most important single factor in the promotion of that unity and good fellowship which adds so much to the dignity of the profession . . . Everything depends upon the influence of the seniors, whose attitude of mind determines whether the young men grow up in a state of wretched discord or in one of pleasant comradeship." To those of us who welcome the guiding experiences expressed by leaders in our profession, the above quotation firmly fixes the responsibility for maintenance of the proper type among men uniting with our county medical societies.

The county medical society, then, that invites nonmembers to unite has a double responsibility: first, to sustain a nucleus of older members imbued with the written and traditional purposes of the organization; and second, to elect to membership only those who are believed to be mentally and morally capable of colleagueship. We believe that ninety-nine per cent of legally licensed physicians at the beginning of their practice are qualified for induction into county society membership and likely to be tolerant of ethical correction or of criticism in scientific discussion. Of the physician who has been ten years in practice and is still outside the membership of the county society, we hold no such optimistic views.

At least one of the county societies in Pennsylvania invites to all of its meetings premedical students in attendance at the college located in the county seat. Many of our component societies elect to visiting membership, without payment of dues, medical graduates serving hospital internships in the county. In addition, some societies mail to medical undergraduates from their county, wherever they may be in school, the society's bulletin. Thus, in Pennsylvania, do we attempt to familiarize prospective practitioners with the processes of the county society and proper appreciation of the value of membership.

The practices above recorded suggest methods by which county medical societies may meet the need in the experience of the novice in medical practice for a substitute for the beneficent preceptor, who in earlier days inculcated the art and the business of medical practice into the make-up of the premedical student who "read medicine" with him.

That we may not be imposed upon by applicants for membership with unsavory reputations or doubtful records as undergraduates, interns, practitioners, or former members of other societies, our by-laws require that the names of all applicants shall be submitted to the biographic department of the American Medical Association, which has on file an up-to-date record of all of us from student days. That the privilege of three-fold membership in county, state, and national medical societies may be more valued, we urge the adoption and enforcement by all constituent state medical associations of a similar by-law.

Before unthinkingly deploring the proportion of nonmember physicians in a county, we should catalog (1) those no longer in practice by reason of change of vocation, ill health, or age retirement; (2) those undesirable for member-

* Read before the Secretaries' Conference of the Medical Society of the State of Pennsylvania, Pittsburgh session, October 4, 1927.

ship; and (3) those who are slackers and usually adamant mentally, having practiced for ten years without recourse to study or discussion with colleagues of the changing medical problems.

That we may consistently claim that the county medical society unites the representative physicians of the county, we advocate an aggressive policy in enlisting county medical society membership among recent licentiates, conservatism in selection among older practitioners, and close adherence to the high ideals of the society's expressed purposes in the administration of the society's affairs.

We who are active in county societies must strive to have the organization a center for public service, and to make membership therein so attractive that the practicing physician who is a nonmember shall carry the burden of explaining his nonmembership.

DISCUSSION

George E. de Schweinitz, M.D. (Philadelphia, Pa.): Our county medical societies constitute the groups into which the complex whole, that is, the state society, may be analyzed, and each such group is analyzable into the individuals who form it. Hence, every qualified physician should acquire membership in his particular group or unit, thus strengthening it, because to make organized medicine strong is to enhance the value of individual effort with respect to the community in which he who expends it lives and serves.

Even as the family is the unit of society, so the county medical society is the unit of the state society, and through it, becomes necessary to the completeness of the great national association, of which we are properly proud. Just as the importance of the family with respect to society depends largely upon individual integrity, so does individual honesty of purpose and rectitude govern the attitude of the medical family, that is, the county society, in its relation to state and national associations. The senior members of the family set and maintain the standards of righteous conduct, and steady the feet of the juniors should they stumble on life's pathways.

A similar settled behavior is part of the duty of those members of the county society who are advancing in age and experience with respect to the junior members—their medical sons and daughters. These seniors we are accustomed to label as "representative" men, or better, as "typical" men, to use Dr. Donaldson's phraseology. But we must carefully define them lest unwittingly we foster the idea that they are a specialized class, to the exclusion of qualified individuals whose acquisition of membership, faithfully maintained, stamps each one of them with the hall-mark of a community's medical representative. The juniors, fresh from their instruction in medical school, from their hospital work, and from their successful passing of the state boards, should, after proper investigation has demonstrated their eligibility, be urged to join, bringing with them the enthusiasm and elasticity of youth; and this is a duty of the senior members.

But this duty does not alone pertain to the seniors, but should be an obligation of medical instructors and hospital chiefs with respect to their students and their resident physicians, to whom they should make plain the advantages of membership in the county societies of the districts in which they intend to settle. They should carefully explain the qualifications of such membership—scientific effort, ethical conduct, and community service, and make sure that these prospective applicants should realize that there must be, in the language of the constitution of the oldest medical organization in continuous existence in this country, no transgression "of good moral conduct and decent deportment." To do otherwise is to fail in their duties as medical instructors and hospital chiefs.

This suggestion is also in the mind of Dr. Donaldson, in that he ably urges that the county society shall "familiarize prospective practitioners" with the value of membership. In this respect medical schools, hospitals, and county societies may well coöperate. Faithful attendance at the meetings of the county society is an obvious duty, but the obligation of membership is not satisfied if he who possesses it is content to be merely a part of the audience. Encouragement to participate in the presentation of papers and in the discussions should be judiciously offered, and this should be part of the work of the presiding officer and his secretary.

It is not too difficult to prepare an attractive program; many men are reticent because they are not invited, and may yet have thoughts, facts, and experiences worthy of record. It may even be that, although physicians who have kept away from the medical fold for a decade or longer are not promising material, now and then there is a soul worth saving. Dr. Donaldson has emphasized the value of placing at the disposal of prospective graduates in medicine, i.e., medical students, the advantages of contact with county society proceedings, an emphasis which we endorse.

Evidently all of us, no matter what our various positions in professional life may be, should include our county medical society among the favorite objects of our hearts, and should help to strengthen this foundation of medical utility and power in its relation to community service and to the great profession of which it is our privilege to be members.

The time has long gone by when a medical school, undergraduate or graduate, confines its activities to the students within its halls and laboratories, or when a hospital is concerned alone with the patients within its wards and dispensary rooms. Stretch wide the opportunities for community service.

A similar relationship is part of the function of a properly organized county society, and it should, at stated intervals, in suitably and ethically arranged meetings, become the clearing house of information of vital importance to be purveyed to the community at large—the control of cancer, the need of vaccination, the purity of the water and milk supply, the spread of infections, the conservation of vision, etc. How better than through the representative men who compose the membership of the county medical unit could such information be authoritatively conveyed?

Furthermore, the societies of contiguous counties should not disregard the value of alliance, should from time to time put into operation combined meetings where the members, the representative physicians, who surely have a fundamental similarity of outlook, shall have the opportunity of interchanging opinions, of discussing mutual problems, and of refining medical and scientific effort.

Every Qualified Physician Should Unite with a County Medical Society

BECAUSE OF ITS POSTGRADUATE WORK

WILTON H. ROBINSON, M.D.
PITTSBURGH, PA.

The postgraduate work carried on by the county society has, until recently, comprised only the scientific program of the regular meetings, consisting in the presentation and discussion of papers, case reports, descriptions of new methods, operations, instruments, etc. Such work is invaluable alike to the general practitioner and the specialist, and should alone constitute a sufficient reason why every physician should be a member of his county medical society. Recently, attempts have been made to augment the scientific work of certain county societies by presenting courses of definite scope and extending over various periods of time. Much credit is due to the Kings County (New York) Medical Society for its pioneer work along this line.

There is much to be said in favor of the short, intensive course, such as may be given effectually by the group of physicians comprising the membership of a county society, but the limitations of the work should be appreciated. The type of course found best is one given by some adequately qualified man or group of men, and consists of from six to eight sessions. The subjects for the courses offer a wide range of selection. Essentially, there are two types. In the first the attention of the instructor and students is concentrated on some particular subject. The following examples of such courses may be cited: The diagnostic significance of the reflexes, conditions affecting the genital tract of children, the relation of physics and chemistry to medicine, the vegetative nervous system, etc. In the second type, a brief review along some particular line is attempted; as, for example, ward walks and demonstrations in contagious diseases, in medicine or surgery, in clinical obstetrics, etc. The first type is probably of the greatest teaching value, while the second will make use of a more general array of clinical material.

It has been pretty well demonstrated that small groups of students will get more out of the work than large groups. Six or eight students to an instructor seems to be the right number. It has been found that a small registration fee is desirable. This pays for the printing and mailing of notices, and relieves the treasury of the society of expenditures from which only a few members benefit. The amount of the fee need seldom exceed ten dollars, and for nearly all courses five dollars is sufficient. However, no hesitation need be felt in setting a fee sufficiently high to liquidate all expenditures necessary in giving any particular course.

Courses such as these may be given either by members of the county society alone, or in coöperation with a medical school or a group of hospitals. Obviously, more ambitious programs may be carried out in the larger cities. However, if a county society located at a distance from a large city desires to put on a course, there is no doubt that its postgraduate committee could obtain coöperation and help from any city in the state. Thus the course might consist of several sessions under the direction of one of the local physicians or surgeons, several sessions by a man brought from another city, or by the group taking the course adjourning via automobile or train to the city where previous arrangement had been made to demonstrate in the course of a day or two whatever was required.

While postgraduate work by the county medical society is in its early stages, it would seem that it might, in a relatively short time, come to be of considerable importance and of real value to the medical profession. There are possibilities of coöperation between neighboring societies, and of help from the State Medical Society and from the American Medical Association. With such coöperation and help there is not a county society in the State that could not put on several courses yearly.

The Allegheny County Medical Society has given one group of courses in accordance with the plan outlined above, and copy for the notices for the second group is now being prepared. We have been pleased with the response, and those who took the courses have expressed themselves as satisfied with the work as given.

DISCUSSION

Morris Fishbein, M.D. (Chicago, Ill.): The most extensive plans for postgraduate education of physicians through their county societies have been developed in New York. Extension and intensive courses have been offered through county medical societies by coöperation of the county medical society with various medical schools and hospitals. In addition, the state societies have compiled lists of men willing and able to teach, who provide single talks or groups of talks and clinical demonstrations on fixed subjects. Special attention has been given to periodic physical examinations, with a demonstration on this subject. Pennsylvania, Wisconsin, Michigan, Washington, and North and South Carolina have all attempted schemes of this character.

The American Medical Association has had under consideration for some time the project of developing

a system of instruction through county medical societies, but thus far without any definite result. The majority of physicians believe that such education is worth while. Apparently the most perfect schemes that are developed are those that are planned as coöperative efforts between universities, medical schools, hospitals, and practitioners. The work done by the Medical Society of the State of Pennsylvania through the University of Pennsylvania has attracted attention all over the country. The chief advantage of such work is the fact that the teaching is done by men who are experienced in pedagogic methods.

It is obviously reasonable that the practitioners who benefit by this work should pay at least a part of the financial burden involved.

One of the chief problems seems to be the securing of attendance at such postgraduate courses by those in most need of them. The practitioner who strives to keep up to date will get his education in one way or another. The man who tends constantly to slip back is likely to disregard any courses that are not made especially attractive to him or especially easy of attendance. Apparently, therefore, some propaganda is necessary to attract him to these courses. This would include publicity, invitations, follow-up letters, and all of the paraphernalia of modern promotion methods. The nature of the material involved demands special consideration.

Practitioners are concerned not so much with the actual performing of laboratory tests as with the usefulness of these tests when this information is supplied through commercial laboratories, through state laboratories, or by some other method. It is important that the practitioner should know when the tests should be performed and how they can be secured, rather than how to do them himself. It is equally important for him to interpret the results of such tests when they are made.

The concentration of county medical society programs on systematic graduate instruction rather than on addresses by temporarily important figures would seem to be a move in the direction of increased benefit both to medicine and to the public.

Every Qualified Physician Should Unite with a County Medical Society

BECAUSE OF ITS SERVICE IN ADVANCING AND CONSERVING THE CORPORATE INTERESTS OF ITS MEMBERSHIP

CHARLES D. AMBROSE, M.D.
LIGONIER, PA.

Born the first son in a physician's family and brought up largely in a physician's office from the time when I was able to walk, I have been in contact with the medical profession all of my life. My early impression and first opinion was that organization of medical men was a fine idea and a sort of Utopian dream, but that in actual practice and in real life a doctor got what he could by his own efforts, and that any real coöperation was impossible, or at least impracticable. But many years ago I heard a wonderful lecture by a silver-tongued old physician from Bowling Green, Kentucky. Under Dr. McCormick's preaching I was completely converted, and I have been a fairly good organization man ever since.

Nobody in this day questions whether the labor unions are any direct benefit to their members, and nobody doubts that the Brotherhood of Locomotive Engineers has some influence with the management of the railway companies. Likewise we, the medical profession, can get what we want and have things arranged the way we want them if we will adopt the same methods and use our influence in the same manner as do these other organizations.

At present, most medical associations give much more attention to scientific and social matters than they do to the business interests of either the members personally or the profession in general. We can do such things when we must, but it seems to require some important emergency or some urgent need to turn our attention from scientific or altruistic ideas to business affairs. I have seen a small group of doctors in a small community break up a habit of asking for night visits by a concerted and determined effort—and it was really not very hard to do. I have seen a larger group of doctors in a larger community who thought that they must keep their offices open about sixteen hours a day and seven days in the week decide that eight or ten hours a day, five or six days a week was plenty long enough, and they enforced this change in office hours to their own great advantage without any apparent disadvantage to themselves and no real inconvenience to their patients.

We all remember last winter when our president-elect passed out the word that appeals to the reason and intelligence of our legislators and friendly arguments had failed, and that we must play practical politics. We all know what happened next. The president did some very practical political work and some of the rest of us roused up and did a bit, with the gratifying result that House Bill No. 933, which seemed sure of passing, was effectively killed in two days. The wonder is not that we were able to kill this bill, but that we ever allowed it to develop to such strength that it required emergency measures to accomplish its defeat.

In Westmoreland County we have been politely arguing with the commissioners for five years, requesting them to build a tuberculosis hospital, after the citizens of the county voted more than three to one in favor of this hospital.

If the 250-odd physicians in the county would demand this institution, I am very sure we should get results promptly; but each of us expects some one else to do the demanding. All of us think it would probably be a good thing to have if somebody would arrange it for us, but the commissioners politely listen to our unconcerted requests, and just as politely ignore these requests. In the meantime, with a population of 300,000, we do not have any place in the county to treat or study cases of tuberculosis.

If all the physicians who are doing emergency surgery under the present compensation laws would demand just fees for their services, I know that the very common practice on the part of the insurance companies of adjusting fees to suit themselves would soon disappear.

If the 12,000 physicians in Pennsylvania would give a little time and a little thought, and each to the best of his ability individually support and assist in the efforts which might be made by the organized body, we should have no such emergency in the 1929 Legislature as occurred in 1927, because by intelligent and concerted action on our part all cult-licensure, antivivisection, and antivaccination bills would be defeated as soon as presented, and no fight would be needed. As a profession we have our heads so high up in the clouds that we cannot see the mud around our feet. We think it undignified and unbecoming to stoop to practical politics, and in 1929 as in 1927 we shall probably fight only when we are backed up against a wall.

While I should very much deplore a medical society meeting which would in any way resemble the deliberations of a meeting of a lodge of the United Mine Workers of America, and while I very much enjoy our purely social and scientific programs, I really believe that if we introduced a small amount (say about half of one per cent) of business and politics into our activities, and had this small amount managed in a dignified, intelligent, and practical manner, we should not lose our dignity but would be distinctly benefited personally and would further our own great aim—the increase of the health and happiness of the whole population—and would not be forced to submit to dictation and control by lay officers, as we all do now in the enforcement of the Narcotic Act and Volstead Law.

Because of closer personal relations with our fellow practitioners, which come with better acquaintance and are best developed through organization, the practice of medicine is much more pleasant and also much more profitable than it was forty, or even twenty-five years ago. Nevertheless, we allow ourselves to act as pawns on the chess board of life in too many instances where we should be knights or kings, too often we are menials where we should be dictators or advisors, and we must do this in many instances because we do not yet have the proper spirit of coöperation which is organization.

DISCUSSION

E. B. Heckel, M.D. (Pittsburgh, Pa.):

"Earth gets its price for what earth gives us,
The beggar is taxed for a corner to die in,
The priest hath his fee who comes and shrives us.
We bargain for the graves we lie in;
At the devil's booth are all things sold,
Each ounce of dross costs its ounce of gold;
For a cap and bells our lives we pay,
Bubbles we buy with a whole soul's tasking."
'Tis service alone that is given away.
The real doctor may be had for the asking.

The value of organization has been brought out very nicely by Dr. Ambrose and the practical side emphasized. We must ever be conscious of the fact, however, that the chief function of a profession is service, and service honestly and sincerely rendered cannot be paid for in gold; yet a just compensation is not only proper but necessary for its continuance.

We must also remember that the moment Dr. Smith puts out his sign as a practicing physician he ceases to be a private citizen; he then belongs to the public, and he tacitly agrees to serve that public. Such service, however, does not mean slavery. Dr. Ambrose has pointed out that through coöperation it can be made agreeable to all; and if the recipients know that the giver is honest and sincere, then it necessarily follows that in most cases, at least, just compensation will result without controversy.

The benefits of organization are so numerous that it is impossible to dwell on all of them. Organization, in the first place, permits us to know the other fellow and forces us to realize that he is a good fellow. Coöperation is the modern watchword without which nothing succeeds. The great business enterprises of today are its direct result. If the medical profession desires to achieve any economic effect it must be brought about by coöperation. The organized medical profession has made possible, by coöperation, a medical defense fund which operates quietly, justly, and efficiently, so that every member of the profession must feel its beneficent influence. This same coöperation has brought about a medical benevolence fund which unostentatiously and efficiently takes care of any needy colleague, and enables him to remain in his own habitat without publicity. The fund is not wasted by maintaining a so-called home, with a large overhead expense, to which the needy physician is sent and thus stamped before the world as indigent or a pauper. It permits him to continue with his regular routine of life unembarrassed, for the names of the beneficiaries are known to only a few, not more than six, and are always guarded with intense secrecy.

Every Qualified Physician Should Unite with a County Medical Society

BECAUSE OF ITS ALTRUISTIC INTEREST IN PUBLIC HEALTH

JOSEPH J. MEYER, M.D.
JOHNSTOWN, PA.

No qualified physician can, with justice to himself and in the best interest of the community which he serves, afford to remain outside the county medical society. That the county medical society should foster and promote everything of a medical nature, and as many other welfare movements as it is possible for its membership to find time for, is unquestionably the solution to the problem so seriously confronting us in many communities at the present time.

It is evident that the laity has for some time given thought enough to matters of public health to insist that those engaged in its work should have qualifications recognized as a legal standard, and we as physicians have fostered the plan of boards of licensure which have for their function determination of the fitness of candidates to care for the sick and injured. Since this plan has been sanctioned by both the laity and the profession, the care of the sick should be left to the physician. The greatest proof of our altruistic interest in public health is the fact that we willingly submit ourselves to the process of determining our fitness for the work at hand.

That physicians generally are deeply interested in all questions pertaining to public health is well demonstrated by the willingness with which they comply with laws dealing with quarantine regulations and vital statistics, and the enthusiasm with which they practice preventive medicine. The increased longevity now manifest in the human race is largely traceable to the activities of the members of the medical profession.

DISCUSSION

T. B. APPEL, M.D. (Lancaster, Pa.): The altruistic side in the public relations of the county medical society, I am afraid, is too often lost sight of. Dr. Meyer has shown the possibilities of the individual physician in educating the public; he has stressed the triumphs of our investigators and the advances that have been made; but I could wish that he had gone further and discussed more fully the place of the medical organization in the solving of public-health problems.

To my mind public-health work is the administration of the principles of preventive medicine. The three necessary factors are official administration bodies, educated public opinion, and an active and militant medical profession; or, to put it more tersely the state, the public, and the profession. Without the full coöperation of these three, perfect results are impossible.

The public has been educated to understand the possibilities of disease prevention and is urgently demanding betterment of present conditions. State health laws are increasing yearly, and the administration of health departments is widening, while various special associations are entering the field and doing more or less good work, both directly and indirectly, by educating the public. Individual medical men have done and are doing yeoman service in the field, but there is lack of coöperation and of proper guidance necessary for the best results.

Here, it seems, the active county medical society, by impressing upon its public that because of the training of its members it is best equipped to guide and correlate, has a wide field of active and definite obligations. All the sanitary problems of the county should be its problems, and through its organization it should be able to direct the campaign. No other organized body can do this, and by firm and united action through intelligent committees not only can it prevent existing agencies from running wild, but it can also initiate new and necessary movements.

We cannot afford from selfish motives to stand in the way of advance in health work; we should not only fall in and support, but actually lead. This means unanimous action, and while many of us as individuals can perhaps do little, the united opinion of the trained medical men must have its effect on society. In this way membership in a county medical society offers to each physician an opportunity to render his full duty to society at large. Where such organization exists, health work is successful. Where medicine shows that it appreciates its duty as a body to society it is respected. Where it does not, either inefficiency exists in the health work, or it is under the control of specialized groups not always working in unison and directed by leaders not cognizant with local conditions. The county society should be the balance wheel to control a uniform movement.

Postural Deformities *

POSTURAL DEFORMITIES OF THE KNEES AND FEET

J. M. KING, JR., M.D.
PITTSBURGH, PA.

In caring for the common orthopedic conditions involving the knees and feet, it seems to me that the chief difficulty lies in the failure to appreciate that often the cause, and therefore the treatment, is purely mechanical. For that reason the following factors will be considered: (1) The interrelation between bowlegs, good arches, toeing in, and occasionally hypertrophic arthritis of the knees. (2) The interrelation between knock-knees, poor arches, toeing out, and hypertrophic arthritis of feet and knees. (3) The interrelation between relaxed posture, slightly bended knees, painful arches, and hypertrophic arthritis. (4) The correct posture, showing minimum knee and foot strain.

With the leg bowed, the foot naturally tends towards inversion, and the weight of the body is thrown on the outside of the foot. With the

* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 4, 1927.

foot inverted and the weight on the outside of the foot, one toes in. Foot strain is seldom seen in the bow-legged individual, but we do see knee strain involving the external lateral ligaments. This may be corrected by teaching the patient the knock-knee gait, that is, toeing out. Thus the thrust of the body is thrown to the anterior and medial side of the joint. This may be aided by elevating the outer side of the heel and sole of the shoe, i.e., by everting the foot. Inasmuch as the knock-knee gait and eversion of the foot tend to pronate the foot, it is necessary to stabilize the arch by some means, such as strapping. In this way full benefit is obtained from the right mechanics at the knee joints.

In the knock-kneed individual the whole thrust of the body is on the inner side of the foot, with the resultant toeing out of foot eversion. Here the whole strain is borne by the internal lateral ligaments of the knee and the ligaments and tendons supporting the arch. To correct this mechanically, the patient is taught the bowleg gait (toeing in) and is helped in this by holding the foot in inversion either through strapping, arch supports, or a raise in the inner side of the heel or to the heel and sole.

In considering the general relaxation of posture, it must be remembered that there are three great anatomic types, with many shaded variations: (1) The normal, as pictured in the anatomic textbooks, of medium height and weight. (2) The short, stocky, heavy-muscled, usually plodding type. At first view the arch in this type usually appears flat, but in reality the bony arch is normally low for this individual. (3) The tall, lanky, "Uncle Sam" type—quick-moving and thinking, with slender, rapidly contracting muscles, and generally less staying power. This type usually has a high bony arch which becomes painful when subjected to extra strain. Viewed superficially, it still appears to be a good arch, but when the line of the tendo achillis is observed, evidence of foot strain is found—not an anatomically flat foot but clinically a pronated foot and foot strain. An illustration of this type is the pioneer of the race—the explorer or the hunter who was intended to live out of doors, but now sits cramped up in an office instead of keeping his body erect. He slumps over his desk and retains his slump when he walks. His knees are flexed slightly and his ankles are partially dorsiflexed, pulling the gastrocnemius tight. This force throws down the head of the astragalus—the first step toward flat feet. It is aided by the stretching of the slender posterior tibial muscle, so that it soon loses its full power in supporting the arch. The anterior tibial—the other muscle chiefly concerned in holding up the arch—is relaxed and thus loses its normal pull. The result is painful pronated feet, chronic knee strain, and eventually hypertrophic arthritis.

With reference to the effect of the gastrocnemius on the astragalus, we have all had women tell us that, having slight arch trouble, they were advised to substitute low-heeled shoes for high heels and immediately their feet became worse. Naturally, a tight tendo achillis subjected to a sudden stretching pulled the posterior part of the astragalus up and the arch down.

The heavy-set individual, or the John Bull type, is represented by the man or woman in middle life who is putting on weight and complains of rheumatism. These individuals always show hypertrophic arthritis, and why not? In an attempt to balance a pendulous abdomen, the lumbar lordosis increases, the hips flex, the knees flex, and a massive weight is thrown on joints in an unintended and poor mechanical position. In an attempt to bolster up the overloaded ligaments, nature sends out bone to assist, and we see in the x-ray those little bony spicules running out from the patella into the ligaments and wherever else the strain is greatest. The treatment of such bony mechanics is evident. The most grateful patients seen are those with hypertrophic arthritis who have been treated by correction of body mechanics.

Rarely does a physician see a patient with correct posture walk into his office. If they are seen at all as patients, they are the victims of an acute (probably infectious) disease. It is certain they do not come complaining of pain in the back, constipation, visceroptosis, tired feeling, varicose veins, rheumatic joints, pronated feet, and the like—for standing correctly, they are an ideal application of good physiology of the circulation, lungs, and digestive organs, as well as the mechanism of the skeletal system.

Summary

Pronated feet, toeing out, and knock-knees are closely interrelated. Correction of one tends to correct the others. Their opposites—protected arches, toeing in, and bowlegs—are equally related.

Excluding these evident superficial mechanical defects, relaxed posture is the most common cause of foot and knee complaints. Correction of these latter defects gives not only local but constitutional improvement.

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MUSCLE TRAINING IN POSTURAL DEFORMITIES

JESSIE WRIGHT, R.P.T.
PITTSBURGH, PA.

In discussing muscle training for postural defects in children, two general classes of cases will be considered: one in which there are muscle contractures besides poor poise; the other in which there is only general relaxation of the body in the weight-bearing positions.

In cases with muscle contractures, mechanical appliances may be aided or supplemented by the use of gradual forcible stretching, followed by exercise of the opposing muscle groups in an attempt to regain a balance of power. For example, if the pectorals are tight, they may be stretched manually in several ways, one of which is by putting the patient's arms in the wing position and exerting pressure between the shoulders, at the same time pulling the elbows back. After appropriate stretching, the trapezius and rhomboids should be exercised to help establish a physiologic balance.

In the average posture case in children, muscle contractures are not present but there is a relaxation in the weight-bearing positions. Formerly the inclination was to give exercises for improving each atonic muscle particularly concerned. In many children who are growing quickly, who are overactive, or who are sitting in school for a period of time perhaps in an incorrect position, there is a tendency for the muscles to become tired and relaxed. In some of these cases, when a long list of exercises is given for individual muscles, the patient shows additional relaxation or there is a tendency for the routine to become monotonous and for the child to do constructive work only during the exercise period. It has proved more feasible to teach the child how to use the important postural muscles together in their natural functional positions when sitting, standing, or walking, so that correction is encouraged all of the time. Of course, individual exercises which have been used successfully for many years prove decidedly advantageous in certain types of children, especially if careful daily supervision is possible.

In reviewing the most important muscles concerned in maintaining good posture, we have the erector spinæ, as its name infers, holding the spine erect and in correct physiologic position, aided by the bracing power of the abdominals, which, in the standing position, also assist the gluteus maximus and pyriformis in holding the pelvic girdle. When the head is back in the horizontal plane, the chest up, the abdomen retracted, especially below the umbilicus, and the pelvis in the normal plane, the weight is carried through the center of balance of the trunk to the hip joints, the middle of the knee joints, the front of the ankle joints, and the outer borders of the feet, the tibials taking care of the elevation of the internal longitudinal arches. It is not necessary, ordinarily, to emphasize holding the shoulders back unless there has been contracture of the pectorals, since with the head back and the chest up the shoulders naturally assume a good position. One of the most important things in posture work is the teaching of correct but not exaggerated breathing, with proper abdominal retraction.

In view of the fact that most of the cases of relaxation and simple postural deficiencies are taken care of at home with inspection and instruction at regular intervals in the physician's office or the hospital, it seems most essential to concentrate on a few simple measures which can be understood readily and can be carried out by the child with the supervision of the parents. If the instruction is directed to teaching the child how to use the chief postural muscles in unison, maintaining the normal center of balance sitting, standing, and walking, it has been our experience that a constant habit of correct attitude is formed most easily and in a comparatively short time, with more lasting benefit than any other exercise program we have used.

Children's Hospital.

DR. FRANCIS HONORED

A gold medal was presented to Dr. Edward Francis, of the United States Public Health Service, Washington, D.C., by the American Medical Association during the meeting recently held in Minneapolis, Minn. The committee on award considered the research work on tularemia, a new disease of man, as the most important medical work of the year. Recognizing Dr. Francis as the nation's outstanding authority on this disease which has perplexed science for several years, the committee, in judging his work on the basis of originality, made the statement that the medal was being awarded to him for his thorough and important scientific contributions to the knowledge of tularemia. The discovery of this disease is an important milestone in medical history. In the history of human medicine this is the first instance in which American investigators alone have discovered a disease of man. Tularemia was discovered in 1910, in California, and advanced steadily across the country until now it is recognized in forty-two states of the Union. Dr. Francis himself fell a victim to the disease while studying his first case in Utah. He is now devoting himself to its prevention and cure.

THE ATLANTIC MEDICAL JOURNAL

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Editorials

THE DUTY OF ORGANIZED MEDICINE TO THE RURAL PRACTITIONER

From a correspondent who practices in a rural community comes an illuminating suggestion on the subject of providing the outlying districts with medical service. It is a suggestion well worthy of serious consideration by officers and urban members of county societies, as well as officers and councilors of the State Society.

As a result of the exodus of physicians from the country to the city, the balance of power in the county societies has shifted from the former to the latter. In most of the counties there are one or two large towns from which the greater part of the membership is drawn, while the remainder of the members are widely scattered throughout the county. It is customary in organizations for the majority to rule. Because of poor roads, inconvenient hours of meeting, programs planned to interest principally those with hospital facilities, distance, and any number of other reasons, it is natural to find that the members from the town or towns are in the majority at meetings. As a result, when plans are being made, the taste of the urban members prevails in selection of speakers and subjects, their convenience is principally considered when the hour is set, and from their number the officers are largely chosen. The town men know each other better and have a greater number of common interests; hence the rural members may feel more or less neglected. Committees are apt to be made up from the town list because it is more convenient to get together. The programs drift away further and further from the interests of the rural physician, and he is given less and less part in the proceedings. As a result, the county society ceases to supply his needs, and his attendance becomes sporadic and finally stops.

Yet the middle-aged man practicing in a remote district is the one physician in the State in most need of participation in organization activities. He it is who most needs the stimulus of contact with fellow members. He it is who makes the greatest sacrifice to attend meetings. He it is who, if properly encouraged, would give the most loyal and unselfish type of service to his county society.

Our correspondent may not be far wrong when he holds organized medicine responsible to a large degree for creating and continuing the problem of medical service in rural communities. If organized medicine has any excuse for existence, it must first of all act as a medium for bringing to its most distant members the professional aid and assistance which every human being needs if he is to live up to his highest capacity. If there is one thing that we all crave more than another, it is personal contacts with those who are working along the same lines but perhaps from a little different point of view. There is nothing so necessary to the development of a proper perspective as the exchange of ideas. And the farther from others of his profession the doctor's daily course runs, the greater is his need to mingle with his own kind.

That the town and city physicians do not realize how thoughtless they are in placing hours of meetings, let us say, at 8.30 or 9 in the evening, cannot be doubted. This is after their own day's work is over, and they are free to enjoy the program and social hour following it. Yet if they would stop to think, they would realize that members from remote sections cannot possibly attend meetings at so late an hour of the evening. Why not at least make a fifty-fifty compromise, and hold half of the meetings in the daytime when driving is safer and roads are more pleasant?

The doctor practicing in the country is usually overworked, and now usually past middle age. He cannot be criticized if he fails sometimes to keep abreast of the latest advances in medical and surgical technic. He needs the kindly interest and sympathy of his urban con-

freres. He needs their consideration and the benefit of consulting together over *his* problems. How little the doctor in the city appreciates the difficulties of country practice! With all the aids of hospital and laboratory convenient to hand, with consultants available on short notice and specialists to help him over the hard places, how can he conceive of a practice in which the physician must be entirely self-dependent, able to meet and conquer any emergency which arises? Yet failure to develop this sturdy self-dependence is one of the things for which the medical education of today is most criticized. The country doctor has, indeed, a message for the city doctor as well as the reverse.

If this thought could only be impressed upon the hearts and minds of *all* our members—those in the large cities, small cities, towns, villages, and open country—how far might it not go toward a solution of the problem of supplying our outlying sections with better medical service!

LAY EDUCATION AND INCREASE OF THE PER-CAPITA TAX

One of the reasons that has been urged for the necessity of increasing the per-capita tax is the need for lay education, which activity must be assumed by the State Society. The very able report of the Committee on Lay Education, submitted to the House of Delegates at the Pittsburgh session last year, left no room for doubt as to the necessity of our State Society entering this field. It costs money, and the financial obligation must be met. The proper way to raise the necessary revenue is to include this activity among the reasons for increasing the per-capita tax.

The public may be overfed with "drives," and "days," and "weeks," as there is no end to the demands on their attention, time, and money; but propaganda against disease cannot be too widespread nor conducted too often. Preventive medicine is greater than curative medicine, and this is the era of preventive medicine. Properly to instruct the people in preventive medicine is one of the duties of the organized profession, and the State Society is the organization which must assume this responsibility, to the end that the people will be intelligently advised.

"What you don't know doesn't hurt you" is a viciously misleading statement, more especially where the health is concerned. When the world was ignorant of the causes of disease, people died like flies. They didn't know why they were susceptible to illnesses, but sickness hurt them just the same. There are still thousands and thousands of people who have only the haziest ideas on the subject of disease and hygiene and sanitation. Too many parents subject their children to risks of infection from sheer ignorance.

We must use every agency at our command to hammer home consistently to the public an understanding of the prevention of disease. The power of reiteration is constantly shown by advertisers. If people can be persuaded to buy an article by having its merits steadily impressed on them, they can be made to take precautions against ill health. To tell the public not only the peril of disease but how to prevent it, in season and out, is propaganda that will bear fruit. There is far too much needless sickness; it can be decreased by publicity against it.

THE SENILE MENTAL PATIENT

Society at large may participate in life's pleasant activities, but it remains for the doctor, the preacher, and the lawyer to deal with its tragedies. The great prayer of Archibald Alexander portrays the things about us and those which, if we are unaided, lie ahead. Written at seventy years of age, he was in a position to say he had truly seen, and to pray: "O merciful God, cast me not out in the time of old age; forsake me not if my strength faileth. Preserve my mind from dotage and imbecility....."

History reveals that some men are born to blush unseen, some to mediocrity, some to wealth and greatness, but all beyond seventy years are doomed to old age. We truthfully say, fortunate is the man whose ship is anchored at a safe port when the sun sets on his seventieth year and when he still retains his physical and mental faculties. Particularly so if we contrast him with the myriad wrecks on life's seas, driven by the winds of defeat to street begging or to the shelter of the wayfarer's lodge, the home of relatives or friends, the almshouse, or the mental hospital.

Pathetic indeed are those seniles living in memories of better years, those deprived of reason, and particularly those in which time has brushed aside all powers of self-control, of adaptation or appreciation of loving homes and firesides, and for whom there is left but the shuttle lock rhythm from street to jail, from home to almshouse, from almshouse to mental hospital, and back again. Surely the ambitious youth who grew to manhood and useful citizenship is entitled to more consideration than that accorded this lot of human derelicts blown hither and thither—the victims of normal physiologic changes!

Much has been written on the helpless senile,

but the world is still far from the proper solution of the ever-growing problem of handling this great group of people. As we look about us, however, what agency is in a better position to solve it, to coördinate control; who is vested with more wealth, power, and authority to this end than the State itself. The first step in any program of State care must necessarily be an allocation of the mental senile patient to State supervision. Therefore, the taxpayers of this great Commonwealth could do no greater humanitarian service than to support and approve the fifty-million-dollar bond issue for enlarging her hospital facilities, so that this great group of patients may be colonized under State Hospital control, free from abuse and neglect, and may spend their remaining years in physical comfort.

THE TRISTATE MEDICAL CONFERENCE

In this number of the Journal will be found a report of the Tristate Medical Conference held at Philadelphia, June 2, 1928. This meeting was devoted to a discussion of the administration of medical laws, the formal paper being presented by Dr. I. N. Metzger, president of the Board of Medical Education and Licensure of Pennsylvania. The object of the meeting was to discuss freely the unfortunate conditions existing between the Board of Medical Education and Licensure of Pennsylvania and some of the adjoining States in particular.

Our members are requested to read this report in order that they may be better informed of the situation from the viewpoint of the Board of Medical Education and Licensure of Pennsylvania and the State Medical Examining Boards of New Jersey and New York. The State Board of New Jersey urges the Pennsylvania Board to administer the Pennsylvania Medical Act in the *spirit* rather than the *letter* of the law.

THE PROGRAM AND CONVENTION PLANS

On another page of this Journal appears the program for the seventy-eighth annual session of the Medical Society of the State of Pennsylvania.

This represents months of work by a large group of able physicians and executives composing the Committee on Scientific Work. Praise would be superfluous; the program speaks for itself, and it should attract a large attendance during the days between October 1st and 4th at Allentown — this year's convention city.

Glance over the program and pick out the portions you most desire to hear. Then write to Dr. Frederick B. Harding, chairman of the Hotel Committee, 941 Hamilton St., Allentown, and ask him to make a reservation for you at the best available hotel.

The plans are going forward for a most enjoyable meeting. Next month we expect to publish the social program, and other information pertinent to the occasion.

Most of the exhibit spaces have been sold, and a full description of the exhibits will also appear next month. Be sure to look for the "Convention Number" of the Atlantic Medical Journal on or soon after September 10th.

THE GLORIOUS FOURTH

Now that another Independence Day celebration has passed, it would be well to determine the accidents, fatal and otherwise, that have occurred. While it is possible to ascertain the casualties, it is not possible to gather statistics showing the number of accidents, with the varying degrees of mutilation, which have taken place.

It is estimated that more than two hundred persons have died this year. Deaths from drowning head the list, and motor-car accidents come next; then come fatalities from the heat and from fireworks. By the time the returns are all in, no doubt we shall find that this latest Fourth of July was as bad, if not worse than its predecessors. The deaths by drowning and automobiles, of course, cannot be attributed to the holiday, but the occurrences are of sufficient import that the people should be admonished to exercise more diligence and care. The deaths and accidents from fireworks are inexcusable, because by legislation and proper enforcement, the manufacture and sale of these destructives can be prohibited, and such should be done to safeguard the lives of the people. It has been successfully tried in certain communities. Why not, then, make it universal?

A few years ago Philadelphia passed a law prohibiting the sale of fireworks. A few days before the Fourth of July this year some accidents occurred in that city from the use of banned holiday explosives. Following these occurrences the director of public safety ordered a thorough investigation, which showed that the ordinance forbidding the sale of fireworks in the city was being openly violated. Parents, too, asked that the menace be removed. Ac-

cordingly, seventy-five firemen were sworn in as special fire marshalls, with orders to comb the city, seize all fireworks, and arrest the dealers offering them for sale in defiance of the law. Some few months previous to the Fourth, other communities in the State which had forbidden by ordinance the sale of fireworks served notice that all who attempted to sell fireworks would be severely dealt with. In this connection, it is of interest to note that a gas and oil service station on the Lincoln Highway near Conshohocken had fireworks exposed for sale on a table, and easy of access. On the other hand, a committee to seek legislation prohibiting the manufacture, sale, and transportation of fireworks in the State of Delaware, except in the case of experienced public exhibitors, has been appointed by the Delaware Firemen's Association.

In view of the casualties and the numerous accidents reported throughout Pennsylvania, our plea is that county medical societies lend every effort to secure prohibition by law of the sale of fireworks in their respective communities. It is a duty to call attention to it in the hope—perhaps the vain hope—that in the future the "usual grim toll of accident victims" will be avoided. Again the need for lay education!

"THE FRAIL SISTER OF MEDICINE" (Psychiatry)

Despite the publicity given to the progress of mental medicine, much evidence appears in current magazines that seeds have fallen on barren ground. We are not surprised, therefore, at the contents of an article, "The Frail Sister of Medicine," by Coghlan *(American Mercury,* May 28) to the effect that psychiatry has made little progress since the days of ancient Greece.

Coghlan follows the usual old-line stuff beginning with Saul, David, and Hippocrates, quoting Farrar at length, emphasizing that little advance has been made in the knowledge of the etiology of mental diseases, as well as their classification, and that the only advance over the ancient Greeks has been in nomenclature. He apparently admits that there are no madmen —mentally disordered persons are just sick. But in the matter of mental hospitals, he has this to say: "They have more air and light, and better plumbing; there are fewer chains, bars and fetters; cruelty is no longer part of the published schedule, but is practiced only furtively, to keep it out of the newspapers."

With equal ignorance, veiled however, by some quotations from Kræpelin, Jones, and Southard, he pays his respects to present-day scientific investigations in mental medicine. He is imbued with the complex that all mental diseases are dementia præcox. Further, he believes that the *Index Medicus* shows no consistent continuing research being conducted anywhere in the world. No one leaves any money for the study of mental illness; the medical schools neglect it; the efforts to cure it are confined to a small number of men who seemingly do not have the time, the money, or the inclination to go deeply into the subject; and a good many so-called psychiatrists are simply political doctors who happen to have got themselves appointed as superintendents of public insane hospitals. The gentleman further finds the need of the Loeb-Leopold case, White versus Crowe, a battle of wits, and the report of the American Psychiatric Association Committee on legal aspects of psychiatry to make his accusations complete.

No doubt Coghlan waxed warm at this point and said to himself, "Take that you bunch of neuropsychiatric fakers!" thereby bringing a decided relief to Mr. Coghlan himself. Let us hope his sublimation has been complete! If not, he might spend a day or two listening to psychiatric lectures in our medical schools. Possibly he might investigate the research work at Johns Hopkins University or at the Boston Psychopathic Hospital. He might find some virtue in the Yale lectures on mental hygiene or similar lectures in our Pennsylvania universities. He might inquire regarding mental clinics, child-guidance clinics, or the psychiatric and diagnostic clinics of our State mental hospitals. Perhaps he might be interested in the work of the neuropsychiatrists attached to the student bodies of our universities. He might familiarize himself with the modern classification of the mentally ill and with the special institutions devoted to each group; that is, the mentally ill, the feebleminded, the epileptic, and the defective delinquent. He might note the marked contrast between the present-day handling of these cases with the type of treatment resorted to by the ancient Greeks. He might study the present-day conception of the etiology of mental diseases and the fact that the psychopathology of the majority of the mentally ill is fairly well understood except for the types designated as manic depressive and dementia præcox. Coghlan further overlooks psychiatry's contribution to the study of the shell-shocked soldiers, as well as the great stress now placed by medicine on the psychiatric interpretation of psychic reactions in all diseases. He is apparently pursuing the old tactics of attracting the reader's attention (a rather cheap way to gain

literary recognition) by citing the woeful conditions existing among mental patients for whom there is no aid or succor but the guidance and supervision of the politically appointed psychiatrist; all of which leads us to say that valuable space has been lost which could have been appropriated to the real good of mental medicine.

It is the consensus of opinion that medical matters should be presented by medical men; for in the hands of the journalist, regardless of his good intent, the subject always becomes badly muddled. "The Frail Sister of Medicine" is no exception to the rule. Certainly, no neuropsychiatrist would claim as his child an article of this type. Such contributions are not uncommon. Mental-hygiene writers have answered them in the past and in the future will continue to place before society in an understandable way the accomplishments of mental medicine, the great strides it has made, its problems, and its needs.

PSYCHOTHERAPY IN GENERAL PRACTICE

Physicians are beginning to appreciate the benefits of physiotherapy, and now Logan Clendening is pointing out the need of psychotherapy on the part of the regular physician. There are vast fields of research as yet undeveloped in what might be called the mystery of the mind. We used to divide the human being arbitrarily into body, soul, and spirit; but we are learning that it is not quite so easy as that. The exact connection between the body and the mind is not yet known, but that there is a connection is easily demonstrated. A sick mind often makes the patient physically sick, and a fighting spirit is vital in bringing him through a serious physical illness.

The physician, therefore, who neglects this phase of his practice is not using one of the most potent aids to treatment. We are all acquainted with the doctor of rather inferior scientific attainments who makes a glowing success while his more brilliant confrere barely manages to make a living. Perhaps this is due to his unconscious use of the principles of psychotherapy.

Here is an appropriate quotation from the *Illinois Medical Journal:* "Emotional instability is a condition that must be handled by the physician with a good deal of tact and sympathetic understanding. Those patients of an emotional nature make up a large proportion of the cases that go from internist to internist and specialist to specialist in an endeavor to get rid of imaginary troubles, or perhaps we should say slight ailments that an acute imagination pictures as being formidable ailments."

Every man needs to have faith in something, and the sick man particularly needs this support. If his physician is able to inspire confidence, the patient is less apt to seek the help of some of the faith-healing cults.

EARLY AND THOROUGH EXAMINATION

The consistent reader of a medical magazine is constantly confronted with two points emphasized in nearly every paper published: (1) the great need of *early* diagnosis and treatment if favorable results are to be secured; and (2) the absolute necessity of thorough and prompt examination of every patient in order that proper diagnosis may be made early.

Take, for example, this extract from a paper on cardiospasm recently published in the Atlantic: "For five years she had run the gamut of medicine and physicians, complaining of 'stomach trouble,' but never once in that time was she accorded the advantage of fluoroscopic and radiographic examination."

Witness another statement from a discussion on carcinoma of the rectum: " 'Treatment without examination is malpractice.' The large number of patients with inoperable carcinoma and often extensive involvement of the lymph nodes seen almost daily in large clinics who have been treated interminably for fissure, diarrhea, hemorrhoids, and have never been adequately examined, is a significant commentary on our lack of diagnostic acumen."

From the report of a case of pernicious anemia the following is culled: "He gave a typical history of pernicious anemia of about eighteen months' duration, and had had various treatments and diagnoses, from cancer to Addison's disease."

Examples could be multiplied indefinitely, but that is not necessary to drive home the lesson. It is a temptation, especially with patients well known to the physician, to assume an optimistic attitude and postpone till a more convenient time the more disagreeable type of examinations. Yet every physician who is faithful to his duty knows that many serious diseases have small beginnings which may be averted by prompt and proper examination, and he is betraying his trust if he fails to give careful attention to slight complaints.

The whole trend of medicine now is toward prevention. Note a few quotations picked al-

most at random from the pages of the Atlantic: "Conservation of vision arrives at a rather late stage with the establishment of conservation-of-vision classes composed of semiblind children. Conservation should reach the child who needs correcting lenses or other treatment. It should also require the safest lighting of schoolrooms and the furnishing of material for writing and reading that admit the minimum amount of eyestrain." And another: "To reap the full benefits of diet in anemia, insulin in diabetes, iodin in all forms of goiter, digitalis in heart disease; to get the best protection against preventable diseases such as smallpox, diphtheria, tetanus, typhoid fever, one must have a medical adviser for periodic examinations and conversations." And a third: "Ten cases of arrested tuberculosis exist in the practice of each physician in the average community. It must be, then, that some of these are at present incorrectly diagnosed. Also, many are not sufficiently ill to seek the services of the family physician. Public-health authorities are emphatic in voicing the danger and the waste in overlooking these borderline cases and the active cases easily recognizable upon physical examination."

Many of the great scourges of humanity—plague, cholera, smallpox, typhus and typhoid fever—have been practically wiped out. Diphtheria and other contagious diseases are in a fair way to be conquered. The infant mortality rate has been cut in half or better. The ravages of tuberculosis have been decreased by half. Cancer is usually curable if taken in time. Much of this has been done through public-health agencies, by sanitation, by education of the public. The diseases which are showing greatest resistance to the program of reduction are the affections of middle life and old age—heart disease, diabetes, nephritis, and the countless other degenerative processes to which the system is subject as a result of the wear and tear of life. Many of these have their inception in youth, perhaps as the result of infection, perhaps as the effect of an unhealthy mode of life. Many of them could be prevented or checked for years if they were discovered early enough and properly treated.

To this end it cannot be too strongly urged that careful examination be made of every patient. If the general practitioner lacks the equipment to make the special examinations indicated, he should refer the patient promptly to one who is competent to make them. And last but not least, he should urge his patients to present themselves annually or oftener for a thorough health examination. Here the specialist can be of inestimable assistance by inquiring of his patients whether they have had a physical examination, and suggesting that it is a wise procedure.

It is the diseases which depend on individual care and watchfulness and that do not lend themselves to mass control which have shown the least response to the drive for better health. It therefore behooves the individual physician to be awake to his responsibility in the matter, and to lead his individual patients to the necessary care of their health which will result in reduction of the degenerative diseases.

JOTS AND TITTLES

Five-Year Program of Committee on Cost of Medical Care

This Committee, organized to study "the delivery of adequate, scientific medical service to all the people, rich and poor, at a cost which can be reasonably met by them in their respective stations in life," has issued its five-year program, consisting of the following group of studies: (1) Preliminary surveys of data showing the incidence of disease and disability requiring medical services and of generally existing facilities for dealing with them. (2) Studies on the cost to the family of medical services and the return accruing to the physician and other agents furnishing such services. (3) Analysis of specially organized facilities for medical care now serving particular groups of the population.

The material available in these three fields and the additional data it is important to secure are outlined as follows: (1) What data are now available showing the incidence of disease and disability requiring medical services and what are the established facilities for dealing with them? (2) What do existing services cost the people and what return accrues to the physician and other agents furnishing such services? (3) What specially organized facilities for medical care serving particular groups of the population may now be found, and how do they compare in adequacy and economy with unorganized services?

The list of studies is as follows: I. Preliminary survey of data showing the incidence of disease and disability requiring medical services and of generally existing facilities for dealing with them. (1) The diseases and conditions responsible for human disability and inefficiency. (2) The prevalence of certain disorders which appear to be among the most serious causes of disability and inefficiency. (3) The proportion of persons, both adults and school children, not disabled, who are in need of medical service. (4) Existing facilities for the treatment and prevention of disease and defectiveness—a statistical study. (5) Surveys of the medical services of a large city, of a small city, and of a rural community.

II. Studies on the cost to the family of medical services and the return accruing to the physician and other agents furnishing such services. (6) The cost of sickness, during a 12-months' period, among various representative population groups, including the incidence of sickness. (7) The influence of specialization on the cost of medical service. (8) The cost of adequate medical service for a family during a 12-months' period.

(9) Capital investment and income in private practice. (10) Capital investment in hospitals and clinics.

III. Analysis of specially organized facilities for medical care now serving particular groups of the population. (11) Organized medical service in industry and in universities. (12) Pay clinics and group clinics. (13) Recent developments in services rendered to persons not indigent by state, municipal, and county hospitals. (14) Visiting nurse societies. (15) School health service. (16) The extent of private medical service on a yearly basis. (17) Existing types of health insurance in the United States.

Further information regarding the program of the Committee may be secured by writing to the Director of Study, The Committee on the Cost of Medical Care, 910 Seventeenth St., Washington, D. C.

The Physician's English

All physicians write papers, but not more than one per cent have taken the trouble to learn how to do it properly—in fact, this figure is probably too high. The *New York Times* recently published a few words on the subject of professional English which are quite apropos of this remark. For example: A Yale professor who had been examining theses for the degree of doctor of philosophy confessed that "few of them were really comprehensible and all of them were totally devoid of the interest competent presentation can give to almost any subject." And again: "The truth is that in schools and colleges, and more particularly in those divisions where there is specialization in fields outside of literature, too little is done to facilitate the teaching of English." To this we would add a fervent "amen!" The physician who wants to write a paper should first assure himself that he has something worth writing about. He should then analyze the subject and classify his thoughts. He should expect to rewrite the paper from two to four times unless he has unusual experience in writing. He should condense it to the limit of clearness. He should scan it carefully for incomplete sentences, ambiguous phrases, incorrect spelling, grammar, and punctuation. He should be sure that his paragraphing is good. (We have seen papers without a single paragraph indention throughout, and we have seen papers in which every sentence is paragraphed.) Finally, he should correct the finished product in ink, and let no typographical error escape. If he has additions to make, the page should be retyped. He should not expect either the editor or the printer to guess at his chirography. The sure test of a well-written paper is this: Could an intelligent layman, provided with a good dictionary, comprehend its meaning? If not, it needs to be rewritten.

More Light on Cancer

At the International Conference on Cancer, recently held in London, Drs. James B. Murphy, of the Rockefeller Institute, New York, and Archibald Leitch, of London, described experiments made independently which led to similar results. Dr. Murphy, working with Dr. Peyton Rouse, has isolated from normal tissues (in chickens), as well as from chicken tumors, an enzymelike substance which, when injected into another fowl, produces a tumor in 90 per cent of cases. This appears to be a growth-stimulating ferment—a "protein fraction" which is free of virus. Dr. Leitch stated that the ferment "produced tumors in fowls with great regularity and may be regarded as the essential 'agent.'" Hope has been aroused that it may also be possible to extract a growth-preventing substance. In this connection we are reminded of the statement by Maud Slye that cancer acts like a failure of the growth-restricting mechanism. It certainly is diametrically opposed to the theory of Gye and Barnard of an ultramicroscopic virus, although Dr. Gye is said to be preparing a report on recent work which he claims has consolidated beyond assault the position they took in their former publications.

At the same conference, Prof. A. Pittard, of Geneva, made the interesting statement that cancer mortality is highest among the tallest people.

A proposal, announced from Havana, for legal inoculation with cancer germs (?) of convicts condemned to death, so that the disease may be clinically studied, has received the unanimous approval of the Board of National Sanitation. It will now go to Congress for legislative action. The proposal provides that condemned men may voluntarily be inoculated with the germs, and that thereafter they shall remain under observation and treatment for twelve years. Should they survive and be cured, they would be freed from prison.

It is to be regretted that the postgraduate course conducted recently by the Philadelphia County Medical Society attracted only 134 registrants; 59 from Philadelphia, 7 from the United States Navy, and some from other states, although the majority were, of course, from Pennsylvania. The importance of the course merited a better attendance.

The Cubic Centimeter and the Milliliter

These two measurements are often confused, according to H. W. Bearce, of the United States Bureau of Standards. Though nearly equal, the two units are not always interchangeable in work requiring great accuracy. Although it was originally intended that all units of measurement should be derived from the single basic unit of length, this plan was not strictly adhered to, and units of length, volume, and mass were established independently. As a result, the milliliter is larger than the cubic centimeter by twenty-seven parts in a million. "The only safe procedure is always to make sure which unit is being employed and then to designate it correctly."

Employment for the Aged

For some time past we have been interested in the problem of employment for those who are past their prime, and lately we have noticed discussion of the subject in publications so widely diversified as the *Journal A. M. A.*, a bulletin issued by a large insurance company, and a magazine devoted to the printing trade. The argument runs that the life span has increased so greatly within recent years that there are many more old people than there used to be; that age (that is, senility) is not a question of years but of the condition of the individual; that many of the greatest works have been done by people over 70; that, if the opportunity to earn a living is to be denied the aged, what is the use of increasing the life expectancy? Prof. E. L. Thorndike, of Columbia University, has conducted experiments which have shown that adults learn more rapidly than children, and that older adults (the group he studied averaged 42 years) learn five sixths as fast as younger adults (average age, 22). He says that ability to learn increases until about 20, when it remains stationary for a time, provided the adult continues to study, and then declines very gradually, and even after 50 the decline is so slow that the attempt to learn is still well worth while. The *Journal A. M. A.* says that

"medicine recognizes the danger in industry of varieties of incapacity which are more frequent as age approaches. however, with modern knowledge of the precursors of these conditions, it would be possible to select those whose condition might require discharge or retirement. It is not necessary, or wise, to sacrifice persons with valuable experience for the sake of an arbitrary and irrational age rule." The pension system is not the final answer to this problem. Individualized selection must be adopted, and the medical profession will undoubtedly become the final arbiter in the question of fitness for service.

Styles for the Gentlemen

That men are the real conservatives is amply demonstrated by the persistence with which they cling to outdated styles of heavy clothing while their wives, daughters, sisters, and even mothers are enjoying the freedom permitted by the modern feminine styles. Theoretically, every physician knows that the lighter garments which permit better access of air and light to the skin are the healthier. The majority of physicians are men. Why, then, not lead a revolt? We are about due for a reform in our garments anyway. A recent correspondent of the *New York Times* suggests as an appropriate costume: B.V.D.'s, a silk collarless shirt, and pongee or alpaca bolero and knickers, with a soft sash in place of an ugly belt cutting across the figure. Vastly more sensible and decorative than the present costume! So why not?

Miscellaneous Pabulum

The Canadian National Committee for Mental Hygiene is planning to spend $750,000 on research in mental hygiene during the next five years, according to Dr. C. M. Hinchs, Medical Director of the Committee. It is proposed to enlist the Federal and Provincial Governments in support of the program, and invite them to share in the expense of the study.

The Commonwealth Fund has inaugurated the publication of a *News Letter,* which will appear bi-monthly, beginning in October, 1928, celebrating the tenth anniversary of the founding of the Fund.

Handshaking has been tabooed by Italian Fascists on the ground that it is unhygienic, and it is recommended that it be "absolutely eliminated in the daily contacts of Italian citizens," and replaced by the Fascist salute. Good idea! Wish somebody would start it in America! We always feel like taking a bath after shaking hands with some people we know!

Columbia University has obtained a patent for a food for diabetics designed to supply "certain valuable ingredients which are otherwise impalatable." The food is said to resemble soda crackers, and contains intarvin, an odd-carbon fat, discovered in 1923 by the late Dr. Max Kahn. The new food is the result of experiments covering several years conducted by the departments of Physiologic Chemistry and Food and Cookery in the Columbia Teachers College.

The demonstration of an electrical field in the vicinity of certain portions of the animal body, the maximum distance being two meters, has been announced by F. Sauerbruch and W. O. Schumann in the *Münchener medizinische Wochenschrift.*

That acneform eruption may be due to the daily use of iodized salt is reported in the *Journal A. M. A.* for June 9th.

Experiments on a diet of milk and gelatinated milk are reported by Andrew Neff of Pittsburgh in the *Medical Journal and Record.* The following paragraph presents a new method of weight reduction: "An interesting application of gelatine in milk was brought out in the case of a subject who wished to reduce his twenty per cent excess of weight. By replacing one third of his milk ration with water and adding one per cent of gelatine, a diluted milk mixture was obtained which, when cool, had about the same consistency as ordinary milk. This subject could drink this mixture, which had sufficient volume to prevent hunger sensations, show a negative nitrogen balance, lose weight rapidly, and feel in perfect condition. His decrease in weight over the short period was approximately three pounds per week."

Dr. R. W. Bradshaw, college physician at Oberlin College, reports that "an analysis of the health records of Oberlin College students for the year 1926-7 shows a significantly higher percentage of illness among all groups of self-supporting students than in the corresponding financially independent groups. The factors contributing to the increased morbidity of the self-supporting groups should be studied in detail with a view to reducing the illness in these groups."

MEDICOLEGAL AND LEGISLATIVE NOTES

The Fifty-Million-Dollar Bond Issue.—Under the caption "What It's All About," the Citizens' Committee for the Welfare Bond Issue has published a pamphlet asking and answering the following questions in regard to the $50,000,000 bond issue:

(1) *What is the Welfare Bond Issue?*—It is the proposed issue of $50,000,000 of State bonds, to provide better care for the thousands of the mentally ill, feeble-minded, epileptics, and delinquents in our crowded state-owned institutions for the unfortunate. This money will be used only for new land, buildings, and permanent improvements; none will be used for maintenance nor for any private or sectarian institution. The welfare bond issue will be Amendment No. 10 on the November ballot.

(2) *Why is a Bond Issue Needed?*—For many years State appropriations to these institutions for the unfortunate have fallen far short of the needs. The institutions are now seriously overcrowded. Many of the buildings are outworn. Many are not even fire-proof. Not one institution is completely finished. Not one is fully equipped to give modern care to its charges.

(3) *How Serious is this Overcrowding?*—State mental hospitals have 1,177* more patients than they can care for properly. County and municipal mental hospitals are overcrowded by 1,651.† State training schools for the feeble-minded are overcrowded by 1,225, and have more than 1,700 others equally in need of care, on their urgent waiting lists.* State correctional and penal institutions are overcrowded by 1,307.* Many long-term prisoners have to be sent to already crowded county jails.

(4) *Why is this Overcrowding Bad?*—It prevents recovery in curable cases; means discomfort for patients; creates health problems; increases fire risks; hampers teaching, training, and employment.

(5) *Have We Enough State Institutions?*—No. We need four new State institutions—a colony for epileptics (authorized by last Legislature but only small initial appropriation made); an institution for the criminal feeble-minded; and two psychopathic hospitals, one to serve each half of the State.

(6) *What are Psychopathic Hospitals?*—They are institutions for the study and treatment of early cases

* April, 1928.
† January 1st and after.

of mental disorder; for research in the field of nervous and mental disease; and for the special training of doctors and nurses in the care of mental patients. There is no state psychopathic hospital in Pennsylvania.

(7) *Is the Bond Issue the Only Way to Get the Money?*—No. There are three other possible ways, but they have distinct disadvantages. Money could be raised by: (a) Increased appropriations (The outlook is poor, since although last year's appropriations were exceptionally generous, over a long period of years appropriations have never been nearly large enough), (b) Special tax levy (This would involve a heavy burden for a few years during which the taxpayers would be assuming the burden both of the past and the future. Another objection is that there is no guarantee that such a tax would be continued), (c) Setting aside of certain funds (The Tax Commission proposed that the proceeds of the inheritance tax be set aside to finance capital developments, such as building operations. This would mean, however, that other sources of revenue would have to be substituted for current income).

(8) *How Much Will the Bond Issue Cost?*—By one of the proposed plans, the total cost of an issue of $50,000,000 of 4% 20-year straight serial bonds would be $62,000,000. By another plan, involving a lesser annual burden for interest and retirement of bonds, the cost would be $71,000,000. There is no excuse for any higher estimate of the cost of a 20-year straight serial loan. The average per-capita cost to the people of Pennsylvania by the first plan would be less than 32 cents a year for 20 years; and by the second plan, would be less than an average of 25 cents per capita for 29 years.

(9) *Will the Bond Issue Increase Taxes?*—The welfare bond issue can be carried from present current revenues without additional taxation.

(10) *Will the Bond Issue go into Effect when the People Vote on November 6th?*—No. The vote of the people only authorizes the Legislature to issue the bonds. Before any funds can be made available the Legislature must pass and the Governor sign an "enabling act" which will specify what type of bonds, bearing what rate of interest, will be issued, and how the funds will be expended.

11. *Who will Introduce this "Enabling Act?"*—The bill for this enabling act will be introduced at the instance of the Citizens' Committee for the Welfare Bond Issue.

12. *What is the Actual Wording of Amendment No. 10?*—"In addition to the purposes stated in article nine, section four of this Constitution the State may be authorized to issue bonds to the amount of fifty millions of dollars ($50,000,000) for the acquisition of lands and buildings and the construction and improvement of State-owned buildings and the equipment thereof for the care and maintenance of penal offenders, delinquents, mental defectives, epileptics and persons mentally diseased."

"Why the Big Hurry?"—Apropos of the welfare bond issue, State Treasurer Samuel S. Lewis recently inquired: "What is the big hurry about these projects?" Dr. Wilmer Krusen, chairman of the Committee for the Welfare Bond Issue, has replied to the Treasurer, and his statement has been widely quoted. He said in part, according to the *Philadelphia Record:*

"We believe enlightened public sentiment in Pennsylvania will admit there is a 'big hurry' when it is informed of the following conditions that exist today and have existed for a long time in the State-owned institutions.

"Feeble-minded children are forced to sleep two in a bed by the overcrowded condition and in some instances beds are so close together that to get to its own bed a child is forced to climb over others.

"At another institution mental patients are forced to sleep on mattresses on the floor. Figures for the last month available show in one hospital that 26 patients were sleeping in hallways, 67 in attics, 160 in unsuitable fourth-story wards, and 50 per cent of the total number of patients in nonfire-proof buildings.

"At almost all the institutions there is such overcrowding that rooms needed for daytime rest and recreation have to be given over to accommodating beds, and dining rooms are so congested that patients must have their meals sitting with elbows touching and their chairbacks in contact.

"In one hospital there is a ward for violently insane men with accommodations for 80, and yet actually 178 men have to be confined there. A ward for violently insane women in the same institution meant to accommodate 80 actually houses 197 women.

"At one of the mental hospitals there have been times recently when they have had more patients than beds. The only thing that saved the situation was that the continuous bath treatment was being administered to some of the patients. 'If, however, there should be trouble with our hot-water system,' says the superintendent, 'we would have to find some mattresses and put them on the floor.'

"In one hospital where violent patients are treated there is so little space that patients must be placed together in rooms matched according to their physical strength so that one will not injure the other.

"At Rockview Farm Prison at Bellefonte a congestion exists which causes about 150 of the prisoners to be housed in the dining room and 40 others in tents.

"All women sentenced to serve more than a year in prison are supposed to be sent to the State Industrial Home for Women at Muncy. It is now full, and as a result many women sentenced in various parts of the State are committed to county jails, a situation which is indecent because these institutions usually afford only male supervision, provide no work and no exercise.

"Instances of the above sort could be multiplied almost indefinitely. They exist because the Legislature over a long period of years has been unable or unwilling to appropriate enough money to keep these institutions abreast of the times and equal to the increasing demands laid on them with the natural increase of population.

"Not to mince words about it, these conditions are a shame and a disgrace to the great Commonwealth of Pennsylvania, in whose reputation we take so much just pride and whose vast material resources should put her above a policy of indecent and shameful treatment of her helpless unfortunates. Legislative appropriation, in which Mr. Lewis now advises us to put our trust to remedy this shameful condition, is the very system which has produced it. Mr. Lewis suggests we leave it to the Legislature and wait seven years.

"I want to ask these final questions: Will Mr. Lewis and the people of the State bear personal responsibility for what will happen during those seven years to the helpless inmates of State institutions? Will Mr. Lewis and the people of the State take on their own individual consciences the responsibility for the deaths that will inevitably be hastened and, worst of all, robbing mentally diseased and feeble-minded patients of the hope they have of being restored to sanity under proper conditions which the staffs of these institutions know so well how to provide if they are given the wherewithal?

"There, Mr. Lewis and people of the State of Pennsylvania, is a short answer to the question, 'What is the big hurry about these projects?'"

New York Fighting Illegal Practices.—An interesting article contributed to the *Panel* (monthly bulletin of the Association of Grand Jurors, New York

County) by Sol Ullman, Deputy Attorney General of New York State, outlines the provisions of the "Webb-Loomis" bill, commonly known as the "Medical Practice Act" of 1926, and describes the activities of the Grievance Committee established by this act against licensed physicians charged with misconduct in the practice of medicine. An improperly conducted "hospital" was closed and those connected with it driven out of practice, combinations of physicians and quacks have been broken up, and at the present time the authorities are waging war on ambulance chasers. Their results are noteworthy, and show what may be accomplished by a board determined to prevent illegal practices connected with the healing art.

Law for Defectives Introduced in New Zealand.—A bill recently introduced into the House of Representatives of New Zealand provides for a board of medical and prison experts to compile a register of all mental defectives in the colony, prohibition of marriage between such persons, and sterilization with the consent of the defective or his guardians, according to the Associated Press.

Fayette County Drives Out Chiropractors.—Chiropractors of Fayette County who were recently convicted of or plead guilty to practicing medicine without a license have been ordered by the court to close their offices and dispose of their equipment. They were required to pay the cost of prosecution, but further sentence was suspended.

Weight of Expert Evidence in Malpractice Cases.—In a malpractice case against a hospital for negligent treatment of plaintiff's foot, two metatarsal bones of which were broken by a fall of slate, the acts of negligence relied on to warrant a verdict for the plaintiff were that the plaster-of-paris casts applied did not extend far enough to support the broken bones; that the bones were not set so that they would knit together; and that there was pus in the fracture when the plaintiff was discharged from the hospital. The controlling question in the case was: Did the defendant use the same degree of reasonable and ordinary care, skill, and diligence in the treatment of the fractured bones as physicians and surgeons in the same general line of practice would have used, time and locality being taken into consideration? The West Virginia Supreme Court of Appeals holds, Vaughan v. Memorial Hospital, 136 S. E. 837, that in such a case an instruction should be given, if offered, telling the jury the peculiar and controlling weight it should give to the evidence of surgeons in determining whether defendant has used such ordinary and reasonable care, skill, and diligence in the treatment. "The ordinary layman does not know whether a particular surgical treatment accords with the standard or usual treatment sanctioned by the profession in that or similar localities. The patient cannot fix a standard of his own; neither can the jury.....The fact that plaintiff's fracture was treated, and the ultimate result was that the bones did not unite, is not prima facie proof of negligence. The doctrine of *res ipsa loquitur* does not apply." Negligence of a surgeon is not ascertained by results; and there was no contract that a perfect cure would be effected. Judgment of the trial court setting aside a verdict for plaintiff was affirmed.—*Medical Journal and Record.*

INDUSTRIAL MEDICINE

British Industry Makes Study of Causes of Industrial Accidents.—Accidents are due not only to dangerous trades but also to qualities peculiar to the victim. Two men may be engaged side by side upon the same task, and one may have twice as many accidents as the other. This is due to what the Industrial Fatigue Research Board of Great Britain calls his "accident proneness." Accident proneness is a personal matter, while accident liability is a broader term covering all the factors. The accident liability of stoking on a ship is obviously greater than that of clerking in a store, while mining is infinitely more hazardous than selling bonds. In spite of this, a man working in a dangerous trade may have a low accident rate, while a man working in a comparatively safe occupation may have a high accident rate. This is apparently because the men are made that way. If accident-prone persons can be warned against entering dangerous occupations they may go through life with very few accidents, thus decreasing personal suffering for them and their families, and relieving industry of a considerable burden in compensation. An accident, from the psychologic point of view, is merely a failure to act correctly in a given situation. It is possible for a careful person who takes a hundred precautions to be prevented by these very precautions from acting as promptly and correctly as he should to avoid accidents. Tests of reasoning ability showed that the man of high intelligence may have accidents as readily as the man of low intelligence. The measure of one's mental ability does not determine the individual's accident rate. Coördinating capacity was shown to bear upon the percentage of accidents sustained.

A series of three tests was worked out to distinguish between those who do and those who do not have accidents. The men who passed these tests had an average accident rate about fifty per cent less than those who failed to pass the tests. As new tests are developed, it may be possible to distinguish even more sharply between the two groups. The qualities involved in accident proneness appear to be connected with poor esthetokinetic coördination and with temperamental instability. A definite relation was found between accident proneness and a tendency to "report sick." There may be a psychologic factor that makes the accident-prone man report sick more often than others although he may be organically as healthy. In at least one group where it was possible to compare the industrial efficiency of the men with results of their tests, the industrially inefficient did worse in all the tests and had a larger number of reported sicknesses and accidents. It may be found that in general the man who has frequent accidents is also more likely to imagine himself ill and more likely to be an inefficient worker. Any one of these things may affect the other two, or it may be that all three are caused by some general factor, such as temperamental instability.

The board's study of rest-pauses in industry established that the introduction of frequent rest-pauses in the working day lessens the feeling of fatigue and tends to increase the output, even though the working time is less. Fatigue may be a toxin that operates like a disease, or it may be a condition of lack of nourishment in the cell. A rest of one hour has been shown to be insufficient entirely to eliminate the fatigue caused by half an hour's intensive mental work, while one minute's work in multiplication requires a rest period of four minutes before working capacity is

restored to its original level. Our present industrial organization does not offer opportunities for the complete recovery from fatigue during the working day, since the excessive proportion of rest to work would bring about sharp reductions in output, but rest periods permitting change and recovery in part have been shown to be beneficial.

The present most common division of working, the Fatigue Board reports, is into periods of from four to five hours' duration. Where rest pauses in addition to the luncheon hour have been introduced, these have been usually in the middle of the morning and afternoon. The most suitable position for the rest-pause depends upon the nature of the preceding work, and varies with almost every type of work. The rest-pause is most advantageously introduced at about the time when the output has reached its maximum; but where this maximum has not been established, the board's general recommendation is that rest be given after work has been in progress for two or two-and-a-half hours.

In America, the usual length of rest is ten minutes, while some shops give fifteen. In England, it is from five to ten minutes. It is evident that the length of the period should be adjusted to the type of work and to the hours worked. A period may be so short that it is only an irritation to the worker, or it may be so long that it will be difficult for the worker to take up his work with the same drive he had developed before leaving it. The most favorable pause will conserve as much as possible of the incitement which augments working capacity and will at the same time eliminate as much as possible of fatigue. In one experiment, rest periods of one-half minute, two minutes, and five minutes' duration were used after a working period of forty minutes, and the two-minute rest was found to be the most beneficial. In another experiment, five minutes was found to be better than one, three, or ten minutes of rest after eighty minutes of work. In still another experiment, a rest of fifteen minutes introduced into the middle of a work period of one hour was found to have an unfavorable effect upon the output.

In repetition work of a monotonous nature, rest-pauses have been shown to be particularly beneficial. Introduction of a rest of ten minutes about the middle of a piece of work in handkerchief folding, handkerchief ironing, and stamping out cigarette-tin lids caused an increase in the rate of work varying from 1.5 to 8 per cent. In four monotonous tasks, the use of a rest of ten minutes increased the output 13, 5, and 8 per cent. Rest periods are found valuable in jobs requiring constant attention and exercise of judgment, such as inspection and telephone work. Here the rest is desirable, not because of the monotony of the work, but because of the fatigue growing out of the constant strain on attention and the higher mental processes. Heavy work has been favorably influenced by the introduction of rests, and in general, the greater the amount of effort expended, the more numerous should be the pauses. Where continued standing or sitting in one position is required, rest periods with a change of posture are beneficial. Rest periods are advocated in those occupations causing unusual fatigue because of conditions which require a working rate that is faster than the natural rhythms of the body. A rest-pause in the midst of a two-hour stretch of mental work showed significant differences, according to the use made of the leisure. Walking brought the least gain in output; complete relaxation brought a gain six times as great.

Different results may be expected for different processes. Physical exercise is sometimes introduced during the rest period, and in almost all cases it has been found desirable to have the worker shift from his customary working posture. In one factory in America, cots have been provided and the workers lie down for a certain number of minutes, often going to sleep. The results of this system have been increased output and greatly lessened turnover of employees.

In most occupations the workers themselves introduce a certain number of pauses during the day. Tinplate workers take from twelve to fourteen minutes' rest each hour. Voluntary rest periods appear to have been developed by the worker as necessary and beneficial, but research indicates that these periods are not so advantageous as an authorized rest. In one case, the substitution of prescribed for voluntary rest periods increased the output more than four per cent. In another case it was found that workers taking spontaneous rests turned out sixteen pieces an hour; when working twenty-five minutes and resting five, they produced eighteen pieces; when working seventeen minutes and resting three, they produced twenty-two pieces; and when working ten minutes and resting two, they produced twenty-five pieces an hour. In this case the output increased with the frequency of the pauses.—*Hospital Management.*

Medical Service to Groups of Small Plants.—The small plant must deal with certain health problems, some of which are just as large and complicated as those found in the larger plant. In this age of keen competition, industrial managers welcome, as a sound business policy, any advance in science which will tend to maintain workers in a state of health and efficiency. The effective work along these lines, possible only when supervised by a competent medical department, is an important factor in maximum production at minimum cost. Continued prosperity is dependent not so much upon the supply of raw material and the value of the finished product, as upon the physical efficiency of the worker and his years of economic productivity.

The medical department of a plant initiates its program by a careful selection of employees based upon the mental and physical qualifications required for the job. Physical examinations, likewise, exclude or control communicable diseases. This protection is only simple justice to fellow workers. The chief object of such examinations, perhaps, lies in detecting incipient defects and diseases—which is most important. The information thus afforded is used not for the purpose of excluding persons from employment, but for recommendation regarding treatment, and for adjusting the worker's duties to his physical and mental shortcomings. As a result of this care, his productiveness will remain at a maximum commensurate with his abilities without endangering himself or causing injury to others.

Every plant, whether large or small, should have a well-organized dispensary where ample surgical, emergency, and preventive medical work can be conducted. Prompt and effective treatment of hemorrhage, heat exhaustion, stroke, or shock, and the use of artificial respiration, when indicated, are important emergency measures. All are agreed that injuries sustained while at work should be cared for in the dispensary, although opinion differs as to the extent of medical care. The

industrial physician, however, can be of great assistance in advising workers concerning the correction of defects. Workers should be encouraged to consult the physician concerning medical matters pertaining to himself or to members of his family that may be causing him worry. Worry is a foe to health and efficiency.

A constant check upon the efficiency of sanitary and safety devices used to prevent the occurrence of industrial health hazards must be made. The department must be alert to the effects of fatigue, harmful fumes, gases, and dusts, and of defective ventilation and illumination. The industrial physician should be able to advise with other industrial experts, such as safety, ventilating, sanitary, and illuminating engineers concerning means and methods of assuring adequate protection against the insidious causes of bodily damage. These advances for the preservation of the worker's health and efficiency cannot be accomplished unless the physician is given ample authority to enable him to attain results. He should be made responsible directly to the management.

The small plant can be assisted in this work. Many such plants in Philadelphia and, no doubt, in certain other cities, are maintaining a properly supervised medical department. The small plant has found difficulty in securing the medical and nursing service which it needs in the limited amount of service which is required for its employees at a cost which is justifiable. In Philadelphia, under the supervision of the Philadelphia Health Council and Tuberculosis Committee, groups of small plants have been organized, and are given ample medical supervision at a cost not out of proportion to that which large plants are obliged to pay. Small plants, having from 25 to 500 employees each, located reasonably near together, and providing a total of 1,000 employees, make up a unit. Each plant sharing in this unit service provides a clinic room with necessary equipment and is supplied with medical and nursing service, first-aid instruction, and the sanitary supervision which is required for its employees. A trained nurse, selected for her ability to do industrial work, is assigned to each unit, and divides her time among the plants in her unit. A minimum of three hours of health work for each 100 employees each week is provided. An industrial physician can do the medical work in two such units. There is no limit to the number of units which can be formed as small plants realize the possibilities of such a joint arrangement.

A difficulty arises in procuring industrial physicians. However, as the work grows, arrangements can be made with the universities to give selected courses in industrial hygiene to the physicians chosen. The courses can be given on a part-time basis. It is the consensus of opinion among hygienists that the best work can be accomplished by full-time physicians interested in industrial work and willing to specialize along these lines. Small plants at present pay only $4.50 for each employee a year, the remaining costs being covered by the Health Council as a part of its demonstration work. Plants can procure the same service under a permanent commercial arrangement for from $6 to $8 for each employee.

Another phase of this work which interests managers of small plants concerns the lower insurance rates obtainable where medical services are adequate. Again, where the company's insurance is carried by a commercial insurance company, the physician receives a professional fee for compensation cases treated, the benefits of which ultimately accrue to the plant in reducing the amount the plant pays for medical service under the unit plan. An added advantage in treating the patient in the plant lies in the conservation of time. Instead of consuming most of a morning or afternoon in sending an injured employee out for treatment, he may be treated in the plant dispensary in a few minutes. These joint services have been demonstrated to be practicable, and are recommended to all small plants. Plants interested in the possibilities of this service are invited to ask, through the Department of Labor and Industry, for further detailed information.—*Labor and Industry.*

Blindness in Industry.—Despite the marked advancements in the installation and use of safety appliances, blindness resulting from industrial accidents is still costing the nation $10,000,000 a year. The National Society for the Prevention of Blindness, which is the authority for this statement, declares that such accidents are responsible for fifteen per cent of the blind population. Lewis H. Carris, managing director of the organization, says that this situation exists "despite the fact that experience of many plants proves that many industrial eye accidents are preventable." The solution of this problem is now being sought through intensive educational and preventive work, including the proper enforcement of safety regulations existing in various states. It should not lack coöperation from both workers and employers. They are most directly affected by the economic loss from blindness.

More Liberal Laws.—A tendency to liberalize workmen's compensation laws by the allowance of larger payments for death or disability is disclosed in a digest of state laws and the federal law issued by the Insurance Department of the Chamber of Commerce of the United States. "The percentage of wages paid as compensation," the Department says, "is 60 per cent in six states and one territory, 65 per cent in eight states and one territory, 66 2/3 per cent in fourteen states, besides the two federal acts, so that twenty-eight states as against twenty in 1920 pay 60 per cent or more. In 1920 twelve states fixed the maximum weekly payments at $12 or less. Now no state has a maximum less than $12 for temporary total disability, and only three have as low a maximum as that, while twenty states, one territory and two federal acts pay $18 or more, as against seven states and one territory at the earlier date. The waiting time is now less than one week in seven jurisdictions; one week in twenty-eight states, one territory and one federal act; and more than one week in eight states and one territory. At the earlier date only four laws fixed a waiting time of less than one week; twenty-one, one week; and seventeen states and two territories more than one week." The foregoing should be a source of greater encouragement to those who are seeking more liberal remuneration for hospital service under the workmen's compensation laws in the various states.—*Hospital Management.*

Health and the Dusty Trades.—The United States Public Health Service has completed a study of the health of workers in a Portland-cement plant. Records of all absences from work were kept for three years, and the nature of disabling sickness was ascertained. Physical examinations were made, x-ray films taken, and the character and amounts of dust in the atmosphere of the plant were determined. The

results indicated that the calcium dusts generated in the process of manufacturing Portland cement do not predispose workers to tuberculosis nor to pneumonia, although they do experience an abnormal number of attacks of diseases of the upper respiratory tract, especially colds, acute bronchitis, diseases of the pharynx and tonsils, and also influenza or grip. Limestone dust appeared to be slightly more deleterious than cement dust. Outdoor work in all kinds of weather, such as was experienced by the quarry workers, appeared to predispose to diseases of the upper respiratory tract even more than did exposure to the calcium dusts. In the outdoor departments, also, the highest attack rates of rheumatism were found. The study also indicated that work in a cement-dusty atmosphere may predispose to certain skin diseases such as boils, to conjunctivitis, and to deafness when cement dust in combination with ear wax forms plugs in the external ear.

HOSPITAL ACTIVITIES

Delinquent Campaign Subscribers Sued by the Staten Island Hospital.—The hospital which obtains funds for a building program through a community subscription is exceptional if at the conclusion of the campaign it finds subscribers prepared to pay pledges as they fall due. The vast majority of hospitals raising funds in such a manner are confronted with the certainty that a varying percentage of the subscriptions never will be paid. Reasons for this include removal from the community, death, changes in financial status, and frequently inability to pay a pledge which was obtained by high-pressure methods.

The board of the Staten Island Hospital recently decided that legal compulsion was necessary and advisable to obtain payment of a certain percentage of pledges made during its twelve-day campaign in October, 1924. Three and a half years after the date of the first payment, 1,800 pledges were in arrears, and the sum due approximated $38,000. Notice was sent some 1,200 of these subscribers that unless their pledges were paid at a given date suits would be started, and in conformity with this statement the names of some 600 subscribers were placed in the hands of attorneys and litigation instituted.

The first quota of suits recently came up before a municipal court and a decision was given in favor of the hospital, the judge holding that the pledgees were liable for the sums promised and that penalties would follow nonpayment. This decision and the accompanying publicity has had a very favorable effect on many subscribers who are delinquent, and it is the intention of the hospital board to pursue the present course until all collections have been paid or settlement arrived at. In addition, the treasurer of the hospital is following up by letter and in other ways all delinquents owing less than $20. This activity is meeting with fair success. No suits were brought for less than $20.

Approximately 8,000 individuals or business concerns subscribed to the fund, and of these, 1,800 were in arrears three and a half years after the date of the first payment, as stated. About 1,000 of the delinquent subscribers paid nothing on their pledges, and the balance, varying portions of the sum pledged. The $38,000 in arrears at this writing represents 6½ per cent of the total sum subscribed, and the board believes that this loss will be reduced to less than 4 per cent as a result of methods now being pursued. The amounts represented by these pledges were for the most part less than $100.

In bringing suit in the municipal court, answers to complaints were called for within five days, which expedited the prosecution. Owing to the method by which the pledge card was drawn, pledges could not be evaded on this score, and the only objections that could be raised were a few to the effect that the signer of the pledge did not know the amount which he claims was placed on the card by the worker after he attached his signature. The defendants, however, did not make much progress with such a claim.

The experience of the Staten Island Hospital in this campaign, aside from the necessity for bringing suit to collect delinquent pledges, indicates that the time over which the payments are spread should be considerably curtailed. Where a large number of persons subscribe, and the three-year period is allowed for payments, there are many removals from the community, failures in business, deaths, and a thousand other contingencies which make collections extremely difficult. It is only with the closest application of business methods and continuous follow-up that pledges can be collected. The board has been surprised at the number of angles from which subscribers view their obligation in one of these campaigns, and it thoroughly believes that the long period is illogical and uneconomical, and that to be really successful the term of payment should not exceed one and a half years from the date of the campaign.—*Hospital Management.*

Hospitals and Public Relations.—The present mode of living in small homes and apartments and the corresponding elimination of the old-fashioned spare or sick room of twenty-five years ago, has brought about a tremendous increase in the use of hospitals, Charles D. Folsom, of New York, told the annual convention of the New Jersey Hospital Association in May. The public attitude also has undergone a great change, he said, in accounting for the increase of the patronage of hospitals, the institutions having changed from a haven for paupers to a real institution for administering to the sick. Public relations is the most neglected phase of hospital management, he declared. Their success is to a great extent contingent upon the impression made on the public, and this is largely done through the newspapers. "Every public utility advertises widely in the papers, boosting the merits of their system, and it is only proper that hospitals should do the same thing." Folsom advocated the appointment of a public-relations agent in every institution that renders community service. Thus they would be able to reach the general public and create a better understanding between the hospital and them. Newspapers should be taken into the confidence of the hospital, he believes.

Has the Day for a Smoking Room in Nurses' Homes Arrived?—Two decades ago, any one who asked such a question would have been considered lacking in many of the attributes of good judgment and good breeding. Today, as a result of the modern trend toward smoking by women, many training-school superintendents are in a quandary as to how to handle this situation. It is argued that young women will smoke clandestinely, even if rules are enacted forbidding this practice. It is believed by some that anti-smoking legislation must take the same course as the prohibition of social intercourse between interns and pupil

nurses has taken in many places. In some schools for nurses in this country, smoking is permitted. In others, while it is not openly approved, there is no active campaign against it. Many old-school hospital administrators and superintendents of schools of nursing have set their faces against relaxing in any degree the effort to enforce rules prohibiting smoking among pupil nurses. True it is that the present-day public attitude condones this practice.

The *Modern Hospital* can express no rigid opinion concerning a policy that is certainly more or less affected by the type of hospital, its geographical location, and the personal beliefs of its supervisory officers. Physicians, however, feel that excessive smoking is deleterious to the health of both young men and women. That there is a danger in many localities of damaging the reputation of the school for nurses by recognizing the necessity of smoking among young women, and by setting aside a room for this purpose, cannot be doubted. It is urged by many informed persons that, if for no other reason than the preservation of the health of young women, who are already undergoing a severe physical strain, training-school superintendents and their medical advisers should not easily yield to what appears to be a growing demand. Morbidity statistics among student nurses are already too high, and despite the trend among young women, the school for nurses should, as a public-health measure, discourage the extension of any practice that might be harmful to the health of the student.—*The Modern Hospital,* May, 1928.

New York Hospitals Adopt Standards for Vacation at Meeting.—The New York State Hospital group has adopted the following standards or recommendations for vacations: (1) That vacation periods be allotted all employees who have been in their employ for approximately one year prior to the vacation period. (2) That uniform vacation periods be allotted as follows: nurse executives, supervisors, teachers, housekeeper, and dietitian, one month (four weeks); graduate general-duty nurses, students, and technicians, not less than two weeks nor more than three weeks; resident physicians and interns, not more than two weeks; all other employees, not more than two weeks, depending on length of service. (3) That no pay allowance be made in case of sickness, except in rare cases, the hospital having performed its part in providing free hospital care. (4) That an effort be made to grant additional time to all employees on national holidays. (5) That no vacation with pay be allowed any employee who is about to leave the service of the hospital on the theory that a vacation is not a bonus for past performances, but a rest period to prepare for future services. (6) That vacations be recognized as a justifiable expense against the operating cost of a hospital, and its purpose should not be defeated by a doubling up of duties upon the remaining employees.—*Hospital Management.*

Should Married Women Be Admitted to a School for Nurses?—The practice of admitting married women to hospital training schools varies much throughout the country. Indeed, in some instances there appears to be but little rationalization of a rule permitting married women to be admitted to the probationary class in schools for nurses but requiring that nurses who marry after beginning their course, leave the school. In other schools for nurses, married women are not admitted, particularly those with children, and nurses who undertake family responsibilities during their training are required to leave. There is no question that, all things being equal, both interns and nurses who are married are likely to render less efficient service to the hospital than are those who have not undertaken such responsibilities. To be sure, where unusual or unfortunate events have occurred in the life of a young woman who has been married, sometimes she may throw herself into the work of nursing the sick with much vigor, and more than average efficiency. In the case of women who have been divorced or who are not maintaining a home, this rule may manifest noteworthy exceptions. It would appear in the long run since the obligations imposed by a training school upon its members are so exacting, that it would be better to admit young women who have no other responsibilities or outstanding interests than to learn the science and art of nursing.—*Modern Hospital.*

PHYSIOTHERAPY

Conservative Physiotherapy.—Within recent years physiotherapy has become a recognized branch of medical practice. An increasing number of medical schools from year to year have added this to their teaching curricula. The recent American Medical Association report of hospitals showed a good proportion which have established physiotherapy departments. While the benefit from this form of therapy is recognized in suitable cases, there is danger of an excess of enthusiasm which may employ it improperly. Familiarity with the principles involved and experience obtained from its practical application in conditions of disease, combined with careful diagnosis of the cases to be treated, are essential for successful employment of this form of therapy.

One possibility of bringing into bad repute this form of practice lies in the excessive zeal of the manufacturer's agent who attempts to stampede the prospective purchaser of apparatus, inexperienced in its use and application, into the belief that his wares are essential for successful future practice. One of the most marked offenders along this line has been the representative of a large eastern manufacturing establishment, who is accustomed to select a compliant physician in a given city, whose office he equips with apparatus. The physician provides him with a list of prospective patients who in due time receive a letter, purporting to come from the manufacturer concerned, exploiting the therapeutic value of physiotherapy in general and his forms of apparatus in particular, accompanied by a pamphlet detailing the conditions of disease which it will alleviate or cure. The information is completed by the enclosure of the physician's card who is recommended as an expert in this line of practice. When in course of time the patient appears, thinking he is suffering from a suitable disease, he is referred for treatment to the physician's technician who proves to be the manufacurer's agent, serving the double purpose of treating the patient and instructing the doctor in the details of technic, thus helping to develop the latter as a specialist in this line of practice. By agreement the receipts are divided fifty-fifty between the physician and the account for apparatus. These details are cited from facts that are actually occurring as illustrative of methods which may be employed that are calculated to bring into disrepute a valuable method of practice.

When employed in a conservative and ethical manner, however, it is to be commended for the relief of human suffering. It is recognized that the specialist is not evolved over night in any line of work but must develop as the result of careful study and experience that follows only from sustained practical efforts.—*Northwest Medicine.*

PUBLIC HEALTH

Cost and Prevention of Sickness.—The International Social Work Congress closed its convention in Paris on July 12th. One hundred and fifty representatives of welfare organizations in the United States took part with representatives from fifty other nations in the social congress and the one relating to child welfare which was held concurrently. Advocating an effective program of disease prevention, Homer Folks, secretary of the State Charities Aid Association of New York and a member of the Public Health Council of New York State, in a report estimated that illness in the United States costs each family $134.68 annually, the cost per capita being $31.08. Of the $15,000,000,000 that illness each year costs the people of the United States, more than 93 per cent is borne by the patients and their families. Yet the country is spending only about $76,000,000 a year for prevention of illness. He estimated the annual total expenses of all kinds up to the date of recovery or death at $3,729,925,896. Of this, he said, physicians received $745,000,000 and "quacks" $120,000,000; hospitals took $404,501,572, while medicines and supplies cost $700,000,000. Loss of wages during illness he put at $1,245,000,000, while the total loss of future net earnings of persons dying prematurely from illness he placed at $12,000,000,000, bringing the entire cost of illness yearly to $15,729,925,396.

In discussing the distribution of illness-prevention costs, which he estimated at $76,000,000, Dr. Folks said the expense averaged 63 cents per person and $3.71 per family yearly. The estimate of costs and distribution is based on studies and surveys in many states and localities. For the amount expended for treatment by "chiropractors, drugless healers, naturopaths, and other like uneducated persons, we are even more in the dark." Dr. Folks estimated that there are about 20,000 quacks, or one to each 7.5 licensed physicians, with an average income at $6,000 a year, a toll of $1 per capita, or $54.30 a family, as compared with $6.21 per capita and $26.70 a family for authorized physicians. From figures appearing in the 1927 *American Medical Directory,* showing that there are 7,610 hospitals in the country, of which 2,088 are governmental, Dr. Folks estimated that a total of $404,501,572 is spent to maintain these institutions annually. This represents a per-capita charge of $3.37. The cost of nursing, per capita, he put at $1.27. Expenditures for medicines, drugs, supplies, sick-room equipment, etc., he estimated at $5.83 per capita, or $24.08 a family. He termed as "conservative" his estimate that $1,245,000,000 in wages is lost annually during illness, including mental disorders. Dr. Louis K. Dublin, statistician of the Metropolitan Life Insurance Company, as a result of an exhaustive calculation of losses in the form of sacrifice of future net earnings on account of preventable deaths in the United States, estimates the amount at $6,000,000,000 a year.

Dr. Folks contrasted European and American methods of dealing with the cost of illness, stating that there is nothing in any state in the Union corresponding to a system of governmental health insurance such as exists in many European countries, nor did he recommend such. While his address concerned itself only with the first or primary distribution of the costs of illness, there is also a secondary distribution, which is an important factor in determining who ultimately bear the burden of the cost of sickness. "It would not occur to any one," he said, "to doubt that it is far better from an individual and social point of view to prevent a preventable illness or death than it is to distribute the losses arising from such illness or death. But a word of caution may be needed lest distribution be confused with prevention, and we devote time and energy to plans in the impression that we were promoting health, when, in fact, we are simply promoting distribution of the losses arising from illness. Prevention and distribution are both necessary and are both important, but as to illnesses and deaths known to be preventable, no more serious mistake could be made than to allow any program of distribution to delay in the slightest degree an effective program for prevention."—*New York Times.*

The Typhoid Carrier.—A woman in Massachusetts who prepared chicken salad for a wedding breakfast in May, which resulted in the death of two of the guests from typhoid fever, has been found to be a typhoid carrier. It is reasonably certain that an eight-weeks' illness which she suffered eighteen years ago was a case of typhoid fever and accounted for the present carrier state. She has been cautioned not to handle food intended for other persons. This case is "another example of the tragedies that may be innocently caused by typhoid carriers," and emphasizes the large factor played by the typhoid carrier in the spread of this disease today.

To Electrocute the Fly.—The War Department, in joining the American spring campaign against flies, has authorized the Quartermaster General to conduct a test of a system for electrocuting flies. This embodies a commercial device by which portable electrocutors with transformers are used in connection with door screens.

Twentieth Anniversary Report of the National Society for the Prevention of Blindness.—Remarkable progress in twenty years of organized effort to reduce the frequency of blindness in America, pointing to possible elimination of the principal diseases causing blindness and the reduction of eye injuries to a minimum, is shown in a report recently issued by the National Society for the Prevention of Blindness. The greatest single achievement has been in the field of ophthalmia neonatorum. As a result of the adoption of laws in most states requiring the use of prophylactic drops in the eyes of babies at birth and the constant educational activities of the Society, the frequency of ophthalmia neonatorum as a cause of blindness among those admitted to schools for the blind has diminished each year until now it is 64 per cent less than in 1908. The Society is following up its work for prevention of blindness at birth with demonstrations of preschool eye tests, preschool clinics, and coöperation in establishment of sight-saving classes for the education of children with seriously defective vision. Using a recently perfected technic it is now possible to test with some accuracy the vision of children too young to read the letters

on the charts used for adults. Special "Sight-Saving Classes" in public schools, have been established in eighty cities in eighteen states. There are now 292 such classes in which, through the use of special large-type books, movable desks, ideal lighting, and special teaching methods, children with little vision are not only given the same sort of education that children with full vision receive, but they are taught how to conserve their remaining sight. However, whereas there are less than 300 such classes, at least 5,000 are needed.

Hope is expressed in the report that at last the struggle of medical men with the scourge of trachoma, one of the great international sources of blindness, is being rewarded by some definite understanding of the causative factors of this disease of the eyes. Credit is given to Dr. Hideyo Noguchi of the Rockefeller Institute, who died May 21st and whose research during the last year of his life helped toward solving the mystery of trachoma which has baffled medical men of the world for centuries.

Eye hazards of industrial occupations still constitute one of the most serious causes of blindness in America, the report emphasizes, despite the strides made toward prevention of accidents generally in industry. It has been estimated that about 15 per cent of the 100,000 blind men and women in the United States lost their sight from this single source. Recognizing the importance of educating workers in dangerous occupations on care of the eyes, the Society has during the last year brought the essential facts concerning eye hygiene, the prevention of accidental injury to the eyes, and the importance of good lighting before approximately 3,000,000 men and women engaged in the most hazardous industries.

To Study Leukemia.—The University of Pennsylvania has received an anonymous gift of $100,000 to carry on a study of the leukemias and lymphomata in the Henry Phipps Institute. The study will be under the direction of Dr. Eugene L. Opie, Director of the Institute's laboratory and of the Department of Pathology in the University School of Medicine. Dr. Opie has recently returned from Jamaica, where he was engaged in organizing forces to control tuberculosis.

Morbidity in Pennsylvania in June, 1928

Locality	Disease				
	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Aliquippa	0	19	8	0	5
Allentown	10	195	30	4	23
Altoona	1	119	8	0	3
Ambridge	0	1	0	0	1
Beaver Falls	1	12	1	0	0
Berwick	3	1	3	0	1
Bethlehem	0	22	8	0	10
Braddock	0	13	2	0	0
Bradford	1	8	3	0	6
Bristol	0	4	3	0	2
Butler	0	42	0	0	0
Canonsburg	0	2	0	0	0
Carbondale	1	0	4	1	0
Carlisle	0	2	0	0	0
Carnegie	0	9	0	0	1
Chambersburg	0	8	2	0	0
Charleroi	0	2	4	0	5
Chester	7	95	0	0	2
Coatesville	0	4	0	0	0
Columbia	0	0	0	0	0
Connellsville	0	0	0	0	1
Dickson City	0	0	0	0	0
Donora	0	0	0	0	0
DuBois	0	26	2	0	0
Dunmore	0	0	0	0	0
Duquesne	0	0	9	0	0
Easton	0	16	0	0	2
Erie	8	63	21	0	44
Farrell	0	0	0	0	0
Greensburg	1	2	6	0	0
Harrisburg	4	191	16	0	4
Hazleton	0	38	3	0	1
Homestead	0	2	0	0	2
Jeannette	1	11	0	0	0
Johnstown	13	66	4	0	9
Lancaster	2	10	1	0	0
Lebanon	1	2	3	0	0
McKeesport	0	2	5	0	1
McKees Rocks	9	0	3	1	0
Mahanoy City	0	5	0	0	0
Meadville	0	0	0	0	4
Monessen	14	6	0	1	0
Mount Carmel	1	17	0	0	0
Nanticoke	0	0	0	0	0
New Castle	0	18	0	0	1
New Kensington	0	1	1	0	0
Norristown	3	159	0	0	9
North Braddock	1	17	0	0	0
Oil City	0	5	1	0	1
Old Forge	0	0	0	0	0
Olyphant	4	3	0	0	0
Philadelphia	175	2,411	222	4	256
Phoenixville	0	6	2	0	0
Pittsburgh	67	255	77	4	92
Pittston	0	0	0	0	0
Plymouth	2	0	6	0	0
Pottstown	0	8	11	0	0
Pottsville	0	3	1	0	4
Punxsutawney	0	0	0	0	0
Reading	11	92	24	0	31
Scranton	7	92	11	1	23
Shamokin	1	6	0	0	2
Sharon	0	2	5	0	3
Shenandoah	1	4	0	0	0
Steelton	0	101	0	0	1
Sunbury	1	7	0	0	2
Swissvale	2	3	2	1	0
Tamaqua	0	42	1	0	0
Uniontown	0	0	1	0	1
Warren	0	11	2	0	0
Washington	0	51	0	0	1
West Chester	10	51	0	0	9
Wilkes-Barre	3	46	0	0	7
Wilkinsburg	1	2	2	0	0
Williamsport	1	12	0	0	20
Woodlawn	0	0	0	0	0
York	0	25	0	0	0
Total Urban	368	4,454	518	17	599
Total Rural	169	3,100	422	41	435
Total State	537	7,554	940	58	1,034

THE AMERICAN MEDICAL ASSOCIATION

Abstract of Proceedings of the House of Delegates

Minneapolis Session

The total membership of the House of Delegates is 170. At the final session in Minneapolis 154 delegates answered to the roll call. All constitutent state medical associations were represented except those of Florida, Nevada, Alaska, and Hawaii.

In the address of the speaker, Dr. F. C. Warnshuis, it was suggested that the annual speaker's address to the House of Delegates should contain no general recommendations concerning policies of the Association, but that it should deal with the affairs and procedures of the House of Delegates. The Speaker urged that careful consideration should be given, and thorough review of matters submitted should be made, by reference committees, and that there should be no generalized approval of referred reports and resolutions.

The president, Dr. Jabez N. Jackson, reviewed vital changes affecting the practice of medicine, referring especially to the development of specialization and institutional care and to the exploitation of the physician in the abuse of medical charity. He offered a recommendation to the effect that there should be an investigation and classification of medical charities, either through a special committee of the Association or through the Judicial Council.

The president-elect, Dr. William Sydney Thayer, delivered a brief address in which he called attention to the present tendency toward overorganization of the profession. Dr. Thayer paid tribute to the work of Dr. Hideyo Noguchi, lately deceased.

Action on Report of Council on Scientific Assembly. The Reference Committee on Section and Section Work commended the report of the Council on Scientific Assembly; recommended approval of the program of diagnostic clinics and clinical lectures which preceded the regular section programs, and approved the recommendation of the Council that all questions of a scientific nature arising in the House of Delegates or in the scientific sections should be referred to the Council on Scientific Assembly for investigation and report before being considered by the House of Delegates. The recommendations of the Reference Committee were adopted by the House.

Medical Education and Hospitals. The report of the Council on Medical Education and Hospitals indicated that the Council plans to devote considerable attention for the next several years to a survey of hospitals in the United States. The chairman of the Council, in presenting the report, indicated that the difficulties of appraisal are recognized and are being considered by the Council. The report also dealt in some detail with the appraisal of clinical laboratories.

The Reference Committee called attention to the fact that the appraisal of medical institutions and agencies in so extensive and so populous a country as this is a vast undertaking, and urged that the policy of the Council should be carried out with great caution and in coöperation with constituent state medical associations and state authorities. The Reference Committee strongly endorsed the recommendation of the Chairman of the Council on Medical Education and Hospitals urging that the practice of medicine is not the proper function of corporations and that the American Medical Association should use its utmost endeavors to stop this growing abuse. The Committee endorsed the substance of a resolution offered by Dr. Southgate Leigh of Virginia to the effect,

(1) That it would be desirable that medical students should graduate and enter practice at an earlier age than at present;
(2) That the plan of covering the medical course in three years of four quarters instead of in four years of three quarters, or any other adequate plan for reducing the length of the medical course, is greatly to be desired;
(3) That the medical course is overcrowded with details and with detailed consideration of specialities and would be improved by less crowding with a course confined more nearly to the essentials, and that efforts to this end should be made.

A resolution presented by Dr. John O. Polak, of the Section on Obstetrics, Gynecology, and Abdominal Surgery, provided that the House of Delegates should disapprove of any reduction in the hours allotted to the teaching of obstetrics, and should advocate that obstetrics as a major subject be allotted a number of hours equal to those allotted to surgery. In reporting on this resolution, the Reference Committee on Medical Education made the point that the importance of a subject or the amount of work that it constitutes for the general practitioner alone is not a proper measure of the time which should be allotted to the study of that subject. The Committee also felt that definite instructions of the kind contemplated in the resolution to councils and other bodies engaged in working out difficult problems are inadvisable and that freedom and initiative should not be hampered by rigid instruction. The importance of thorough instruction in obstetrics was recognized by the Committee, but its recommendation was that the resolution of Dr. Polak be not adopted.

The report of the Reference Committee on Medical Education was adopted by the House of Delegates.

Hygiene and Public Health. The Reference Committee on Hygiene and Public Health recommended that the House of Delegates reaffirm its endorsement of the plans outlined at a previous session for medical relief in disaster.

With respect to a communication addressed to the House of Delegates by the National Grange concerning the alleged scarcity of physicians in the rural districts, the Reference Committee offered the following resolution, which was adopted by the House of Delegates:

Resolved, That an official reply to the Grange be formulated by the Secretary of the House of Delegates embodying the following thoughts:
1. That the House of Delegates is keenly alive to the problems involved and recognizes that, although there will always be some inadequacy of medical services in sparsely settled communities, improvement of medical services in rural districts is needed.
2. That the problem is being intensively studied by the Commission on Medical Education (already in its fourth year), the Committee on the Cost of Medical Care, the Council on Medical Education and Hospitals, and other bodies.
3. That the problem is fundamentally economic and the solution involves much more than the mere length and costs of medical education.
4. That patience and time are necessary in order to obtain data and evolve methods for solving this problem.
5. That suggestions from the National Grange and information will be welcomed by the House of Delegates and by any of the bodies specially engaged in the study of medical educational and economic problems.

The Committee recommended approval of legislation providing for coördination and increased efficiency of the public-health activities of the Federal Government.

The report of the Reference Committee on Hygiene and Public Health was approved.

Legislation and Public Relations. The following resolution, introduced by Dr. C. J. Whalen of Illinois, was referred to the Reference Committee on Legislation and Public Relations:

Whereas, It has come to our attention that students in universities and colleges are being given free medical care without regard to the ability of the individual to pay for the same, therefore, be it

Resolved, That the Judicial Council be requested to investigate the matter as to the extent to which this practice prevails.

The Reference Committee recommended that this resolution be referred to the Judicial Council.

A resolution providing that the Board of Trustees of the Association take leadership in the support of suitable legislation to recognize properly the services of Drs. Jesse W. Lazear and James Carroll was, on recommendation of the Reference Committee, referred to the Board of Trustees.

The recommendation of the Reference Committee with respect to the report of the committee appointed to secure revision of undesirable regulations under the Volstead Act was to the effect that this committee be continued for one year.

The Committee approved the resolution introduced by Dr. Orrin Sage Wightman of New York providing for the appointment by the Board of Trustees of a Committee on Visual Moving Picture Education.

The recommendations of the Reference Committee on Legislation and Public Relations were adopted by the House of Delegates.

Amendments to Constitution and By-Laws. The Reference Committee on Amendments to the Constitution and By-Laws recommended that the proposed amendment to Section 1, Article 5 of the Constitution, offered by Dr. George Edward Follansbee of Ohio, be made instead an amendment to the By-Laws to be Section 12, Chapter XI, to read as follows:

The House of Delegates shall have the power to expel a member of the American Medical Association or a Fellow of the Scientific Assembly on recommendation of the Judicial Council.

The Committee offered the following substitute for an amendment to Article 12 of the Constitution offered by Dr. J. C. Litzenberg of Minnesota:

The House of Delegates may amend this Constitution at any annual session, provided the proposed amendment shall have been introduced at the preceding annual session, and provided two thirds of the voting members of the House of Delegates registered at the session at which action is taken vote in favor of such change or amendment.

The Reference Committee recommended that a change in the By-Laws proposed by Dr. J. C. Litzenberg of Minnesota should be changed so that Section 5, Chapter II of the By-Laws shall read:

SECTION 5.—*Quorum.*—Fifty of the voting members of the House of Delegates shall constitute a quorum.

The above recommendations were adopted.

Reports of Officers. The Reference Committee on Reports of Officers endorsed the opinion expressed by the speaker of the House that the speaker's address should be confined to recommendations concerning the conduct and administration of the business of the House of Delegates. The Committee did not approve the suggestion offered by the Speaker that the details of the work of the House of Delegates should be published in full, but did approve the suggestion of the speaker that endorsements of recommendations and reports should be made by the reference committees only after thorough review and consideration of all matters referred.

The Reference Committee offered its approval of the declaration of the president that "the time has come when no institution or clinic should permit its attending physicians to be imposed on; and when, whatever the social or other advantage to the physician in the clinic, he should not be permitted to contribute to what is a gross injustice to the profession as a whole." The Committee also approved the principle of the president's recommendation for the investigation and classification of medical charities through the Judicial Council.

The Reference Committee especially approved of the suggestions of the president-elect that in the multiplicity of independent medical societies there exists a danger of diverting and dissipating the fundamental strength of organized medicine "as typified in the composition of our county, state, and national organizations."

The recommendations of the Reference Committee on Reports of Officers were adopted by the House of Delegates.

Reports of Board of Trustees and Secretary. The Reference Committee on the Reports of the Board of Trustees and Secretary endorsed that part of the secretary's report relative to the multiplicity of existing independent medical organizations whose work, in many instances, parallels the work of the component county and constituent state medical associations and, to some extent, tends to interfere with the successful operation of component county medical socities and constituent state medical associations of the American Medical Association.

Concerning the meetings of hospital staffs, the Committee offered the following statement:

The committee deprecates especially the compulsory multiple scientific meetings of hospital staff organizations. These have tended to limit to small groups the dissemination of medical information and the discussion of medical problems, interfering thereby with the work of organized medical societies. Organization is necessary in order to obtain unified action of the medical profession in various communities. We feel that the need is greater than ever for general discussion of medical problems and for the dissemination of information associated with the specialties to all physicians. Only in this way can the general practitioner keep abreast of modern medicine.

Your reference committee suggests that the staff meetings of hospitals be devoted preferably to executive discussions of problems relating to hospital economics and records, and that members of the American Medical Association make special efforts to stimulate interest in, and the development of, scientific medicine in the regularly organized county medical societies.

This part of the Committee's report evoked extensive discussion, but was adopted by the House as presented by the Committee.

The recommendations offered by the secretary concerning relief for needy physicians, which recommendations were submitted in compliance with specific instructions received from the House of Delegates, were approved by the Reference Committee with the recommendation that each constituent state medical association should be left to follow its own plan for the relief of needy physicians. After considerable discussion, this matter was referred back to the Reference Committee.

Later on in the session, the Committee reported on a resolution presented by Dr. J. Richard Kevin of New York providing that a committee of the House of Delegates cause to have made surveys through county medical societies to gather additional information concerning the need for the establishment and maintenance of a national home for incapacitated or indigent physicians. The recommendation of the Reference Committee was that the Board of Trustees should appoint a commission of five to consider the whole situation, including the various solutions that have been proposed, and to determine the responsibility of the American Medical Association.

The Reference Committee expressed appreciation for the work accomplished by the Board of Trustees. It commended the *Quarterly Cumulative Index Medicus*, and strongly urged that the members and Fellows of the Association should give adequate support to this publication. The activities of the Coöperative Medical Advertising Bureau were endorsed by the Committee, and expression was given to the hope that the few state

journals which do not participate in the work of this Bureau will eliminate the advertising of products which do not have the approval of the Council on Pharmacy and Chemistry.

The report of the Reference Committee stressed the importance of the periodic examination; commended the work of the Council on Pharmacy and Chemistry, and made an urgent appeal for the support of this Council by the profession at large; approved the work of the Council on Physical Therapy, especially in providing for the dissemination of information concerning the methods of physical therapy among the profession, and commented most favorably on the work of the Bureau of Investigation.

Efforts of the Bureau of Legal Medicine and Legislation toward preventing the extension of socialized medical practice by the government through the Veterans' Bureau and similar organizations were endorsed by the Committee, and the intention of this Bureau to continue its work for legislation, giving physicians the right to deduct from income tax returns expenses incurred in attending scientific meetings and in taking graduate courses of instruction, were approved by the Committee. The activities of the Bureau with respect to the status of the physician as an expert witness were also aproved.

The report of the Advisory Committee on Trachoma Among the Indians was endorsed by the Reference Committee, and the continuance of this Committee was recommended.

It was urged by the Reference Committee that members of the House of Delegates should take advantage of every opportunity to keep the component societies of the state association they represent advised about the work of the American Medical Association.

The Reference Committee expressed appreciation of the report of the Committee on the Grading of Nursing Schools, and recommended that the request for additional appropriations for the use of this committee be referred to the Board of Trustees.

The action of the Board of Trustees advising the rejection of the offer of the Physicians' Home, Inc., to the effect that this home be taken over by the Association was endorsed by the Reference Committee.

The Reference Committee expressed interest in the growth and work of the Woman's Auxiliary, and endorsed the continuance of the annual conferences on public health. The continued extension of the activities of the Association were favorably commented on in the report of the Reference Committee, and the plans of the Board of Trustees for providing increased facilities were approved.

The recommendations of the Committee were adopted by the House.

Reapportionment of Delegates. On recommendation of the Reference Committee on Reapportionment of Delegates, 775 was established as the basic figure for determining representation of state associations. Thus, each constituent state medical association will have one delegate for each 775 members. Each association with a membership of less than 775 will be represented by one delegate. On this basis, the total membership of the House of Delegates will be 173. California, Florida, New Jersey, New York, and Pennsylvania will each gain one delegate, under the new apportionment, while Iowa and Texas will each lose one delegate.

Committee on Visual Moving Picture Education. A resolution introduced by Dr. Orrin Sage Wightman of New York provided for the appointment of a committee on visual moving picture education whose duties shall be to deal with the problem of using moving pictures for educational purposes. This resolution was adopted.

Election of Officers. The following officers were leected: president-elect, Dr. M. L. Harris, Chicago; vice-president, Dr. W. A. Jones, Minneapolis; secretary, Dr. Olin West, Chicago; treasurer, Dr. Austin A. Hayden, Chicago; speaker of the House of Delegates, Dr. F. C. Warnshuis, Grand Rapids, Mich.; vice-speaker, Dr. Allen H. Bunce, Atlanta, Ga.; members of the Board of Trustees, Dr. J. H. Walsh, Chicago, and Dr. A. R. Mitchell, Lincoln, Neb.; members of the Judicial Council, Dr. F. W. Cregor, Indianapolis, and Dr. James B. Herrick, Chicago; member of the Council on Scientific Assembly, Dr. Roger S. Morris, Cincinnati; member of the Council on Medical Education and Hospitals, Dr. Reginald Fitz, Boston. Portland, Ore., was chosen as the place of meeting for the annual session in 1929.

The total registration at the Minneapolis Session was 4,876.

THE ARMY

The Medical Field Service School, Carlisle.—The following is an account of two weeks' "active duty" for training purposes of the Reserve officers at the Medical Field Service School, Carlisle Barracks, Pennsylvania. The assignment to "active duty" is left to the choice of the individual Reserve officer. The Corps Area surgeon determines upon the eligibility of the Reserve officer for the particular course. The eligible officer is then asked whether he wishes to accept active duty. The Corps Area surgeon sends the names of those who accept to the Surgeon General, who designates the ones to be sent to the course for training to the adjutant general's office. The assignment is not compulsory, and if anything unexpected occurs making it impossible for the officer to attend, even after he has accepted, he may notify the Corps Area surgeon and be released from active duty. Sufficient time is allowed the individual who has been designated for active duty to arrange his affairs at home in order that he may attend with the least possible harm to his private work and the least inconvenience to his patients.

The main purpose of this article is to stimulate other Reserve Medical officers to accept active duty when asked. The writer, therefore, feels that an account of the method of instruction of the Medical Field Service School would be of interest. The school at Carlisle is the best of its kind for the purpose of training medical officers and medical personnel. The very best men have apparently been chosen from among the Regular medical officers for the staff of instructors. Nothing has been left to chance. Everything pertaining to medical service in time of war has been made a matter of study and research. Much of this research is carried on in this school by the instruction staff, who are thus enabled to make the course valuable and interesting. The function of the school is not to train men to become physicians or to teach different specialties in medicine. The function of the Carlisle Field Medical Service School is what its name implies; namely, it is to teach both medical officers and personnel the service they are to render the Army in the field of combat during war. In other words, it is the business of actual war preparedness, from a medical standpoint, which is there taught.

Those responsible for the Medical Service in the Army take the responsibility seriously. If one reflects

upon the magnitude of the medical problem during the World War, when over 7,000,000 men were examined and over 4,000,000 sick or wounded were treated in military hospitals, it becomes evident that definite medical military training is necessary during peace time in order to avoid unnecessary suffering in case of an emergency. The magnitude of such a problem should not permit any medical man to refuse commission in the Reserve, or when in the Reserve, to refuse "active duty" for two weeks a year, as his share toward the preparedness for the humanitarian service that a medical man is called upon to render his government in case of an emergency.

Even a superficial study of the activities of the Medical Field Service School at Carlisle would be sufficient to satisfy any one that the arrangement for training medical officers and personnel there for a national emergency is perfect. With the exception of about one month, every calendar day is given over to training. A basic course, lasting four months (February 1 to May 28) is given for officers of the Medical Department of the Regular Army, including Dental and Veterinary officers. Another course of six weeks is given in the form of a Reserve officer training camp (June 10 to July 21). This course is for students of the Medical, Dental, and Veterinary R. O. T. C. units of the various respective schools in the first five corps areas. This is an advanced R. O. T. C. course, which trains the men for the positions of junior officers, including the grades of lieutenant and captain. This is a very valuable training—it prepares the younger men for the positions they are to occupy in case of emergency, and prepares them from the bottom up. One cannot help but feel that the young men who go through this R. O. T. C. training will become the future backbone of the Reserve Officers' Medical Department.

Another two-weeks' Reserve officers' course (July 3 to 17) is devoted to the training of whole detachments and medical regiments, including the officers assigned to such units. The six-weeks' course from September 1 to October 14 is given to medical officers of the National Guard and Organized Reserves. A two-weeks' couse is given from September 11 to 25 to higher-grade Reserve officers. This is a course for commanding officers and executives. There are two other courses —one a two-months' course (October 1 to November 30) which takes up the training of the noncommissioned officers of the Medical Department of the Regular Army and the National Guard; and the other, also a two-months' course (October 15 to December 14), is an advanced course for senior officers of the Regular Army, National Guard, and Reserve officers.

The duty on the part of the Reserve officers to accept training when asked by the surgeon general becomes obvious. It also behooves the young medical graduate to accept the commission in the Reserve Corps together with "active-duty" training consisting of two weeks a year in field service, because before long it will devolve upon him to carry on what has been done by the older men ahead of him.

It is needless to say that the surgeons who have attended this course, and who are teaching in various medical schools, will do well to follow the system of teaching which is so successful at this Medical Field Service School. Mess management, too, is demonstrated in a way that would be of immense value to the professional dietitians of civil hospitals. It would be well for such dietitians to ask the Surgeon General's office for a course in mess management at this school. They could apply such training in civil life and at the same time it would act as a method of preparedness in an emergency. Great credit is due the commandant of the Medical Field School, Carlisle Barracks, Colonel C. R. Reynolds, M.C., for his very efficient administration.—*The Military Surgeon.*

Honor Key of the Army Medical School.—On October 25, 1927, the Surgeon General of the army approved the design for the honor key of the Army Medical School. This unofficial emblem may be worn by honor graduates of the school as well as any officers who have attained the grade of 90 or above in the regular course. The idea of a key as a badge for high academic standing is not new. Phi Beta Kappa, the oldest American college society, which has branches at the principal institutions in the country, uses such an emblem. That society was founded at the College of William and Mary on December 5, 1776, and was the first of the now numerous Greek-letter college fraternities. However, it soon lost its secret character and devoted its activity to the promotion of scholarship. Membership thereafter was conferred as a reward for distinguished academic attainments.

In the more than a quarter of a century of its existence, the Army Medical School has given the distinction of honor graduate to 130 men. They have been advanced through the grades to the highest in our service. The standing of the Army Medical School is recognized by scientific institutions everywhere, and full credit is given for its courses to those who would seek higher degrees. Heretofore, there has been no emblem given to the honor graduates, though suitable entry after their names is made in the official army register. At the Army Medical School an honor graduate is a student who has completed the course in a satisfactory manner and attained a general average of not less than 90. This standard is in every way the equal of that required for scholarship keys, and indeed is higher than the standard for many societies. The need for an honor key for the Army Medical School has long been felt, and it is believed that the new emblem will be a valuable incentive to the student's effort and will be a factor of importance in maintaining the high standard of the Army Medical School. While in the future there will be no more honor graduates, it being the War Department's policy to graduate all student officers at the special and general service schools of the army with the same diploma, it will still be possible to recognize scholarship by this unofficial key. It is expected that honor keys will be presented annually at the graduation exercises at the Army Medical School to the officers who have won the right to wear them.—*The Military Surgeon.*

TRISTATE MEDICAL CONFERENCE

Abstract of Proceedings

The ninth meeting of the Tristate Medical Conference was called to order at 10 a. m., June 2, 1928, at the home of the Philadelphia County Medical Society, 2046 Spruce Street, Philadelphia, by Dr. Arthur C. Morgan, president of the Medical Society of the State of Pennsylvania. Those in attendance from Pennsylvania were: Arthur C. Morgan, Philadelphia; I. D. Metzger, Pittsburgh; Frank C. Hammond, Philadelphia; Wilmer Krusen, Philadelphia.

The Administration of Medical Laws

I. D. Metzger, M.D.,
President of the Pennsylvania Board of Medical Education and Licensure,
PITTSBURGH, PA.

In the midst of administrative duties one is apt to lose somewhat his perspective of the larger field of medicine in which others also are working. Meetings of this type in which other viewpoints are presented should, therefore, be of mutual benefit to those who administer the several laws, as well as to applicants who are vitally concerned in decisions which affect their immediate welfare. Several years ago an effort was made to clarify the legal relations between several groups of this conference, with more or less indifferent effect. To enhance the neighborly spirit, without prejudice to any, is my earnest hope and my only excuse for being present today.

It is curious to note how comparatively few physicians appreciate the fact that medical education is but a branch of general education and is subject to the same regulations. The universal aspect of medical education suggests a common legal registrational requirement which should have equal value throughout our nation and the world. Singularly, however, it is purely a "state" affair, like all types of educational activities. Because of this fact, all efforts to secure federal legislation to cover uniformly all states and territories have been futile. The convictions relative to "state's rights" are so deeply rooted and the conceptions of the adequacy of certain educational systems demanded by people in various sections of our land are so varied as to make it doubtful if ever a central federal regulation will be possible.

Each state has enacted laws under which each noble profession is directed and legally controlled, whether it be medicine, dentistry, pharmacy, law, or pedagogy. To attempt to federate any one department of education into a central scheme would open the way to all, and eventually readjust the whole educational policy of the nation. The right to establish their own educational systems has been delegated to the various states and they have guarded this right jealously.

Since each state establishes its laws, neither the federal government nor any other state government may interfere with its administration. Certain regulations may be established which may appear to be at variance with our conception of justice, and yet be perfectly logical under the peculiar conditions then obtaining. Sympathy and tolerance, with free adaptation where discretionary powers are granted, should therefore characterize interstate dealings, where these variations occur.

The purpose of medical laws, as of all laws of a commonwealth, is to protect the individual citizens of the state. The state medical boards have been established to assure this in the healing profession. It is the duty, therefore, of each member of the board to assure himself that each candidate for licensure is adequately prepared to assume the serious responsibilities of the profession.

The particular points to be noted regarding any candidate for licensure are his preliminary education, his scholastic professional education, and his practical professional education, as required by internship in certain states. The preliminary education can best be evaluated by representatives of the general educational system of the state, and is so done in Pennsylvania. The scholastic professional education is best determined by special inquiry into and personal knowledge of the equipment, the curriculum, and the faculty personnel of the medical college from which the applicant has been graduated. The practical professional training secured in a hospital, most variant and elusive of all credentials, requires specific information not only on the departments covered but also on the type of supervision under which the training was received. Unlike a conventional school, no standardized direction of work or gradation of excellence has as yet been made practicable. A system is followed in our state which has been very informing, and, with frequent inspections, can be considered fairly reliable for credential value.

Briefly, the plan is this: Each approved hospital is required to establish a rotational course of training which will be completed in a minimum of one calendar year. This covers the different fields of medicine in such way as to assure a good apprenticeship training in each department with a minimum of disparity in the professional balance. Thus, a comprehensive training may be secured so as to lead the intern to evaluate each department in the light of all, and thus produce a sane general practitioner of medicine. If he desires to specialize, it must be done later, after additional elective internship in the particular line has been secured. In no case shall the fifth year of medical education be an elective one.

To give such a rotational course of internship the hospital must have adequate equipment, a sufficient number of patients in each department, and a staff of outstanding leaders to head the various departments. A designated chief in each department directs the work of the intern in his department. He certifies to the superintendent upon a card the type, the amount, and the efficiency of work done in a given period. This forms the basis for a permanent record of the intern's work to be consulted at the close of the year and in future years. Eventually the chief of each department signs the legal certificate required of the intern before he may enter the licensing examination or be licensed by endorsement. This credential is countersigned by the superintendent in certification of the intern's conduct and character as exhibited throughout the year.

It is astounding to find how meager is the information on intern work available in what are otherwise excellent hospitals. Scarcely any detailed information is obtainable, except the record of his presence in the hospital between uncertain dates, especially after a year or more of time has blunted the memory of his coworkers. Recently, a superintendent was compelled to secure from the applicant himself all specific data relative to the work he had performed and the number of cases he had attended. Should this be tolerated in a school? If this year is legally required, it should be made purposeful, definite in its requirements, and critical in its records and subsequent certification. The credentials should be as legally submitted and sustained by obtainable evidence as any other document which may be filed in the State Department to support the applicant's license.

The fidelity with which this internship is secured and certified to has been a matter of earnest concern in our state. The administration of this fifth year has greatly increased the work of our Board, but has been the means of assuring not only a much better-trained quota of new doctors year by year, but a more alert coterie of workers already in the field. The quickening mental effect derived from teaching others has had much to do with developing the splendid research centers associated with the hospitals in many communities in the state. The complete laboratories, under the direction, in most cases, of full-time specialists, have furnished the means

for doing scientific work in relation to cases within the hospitals, and have established a suitable environment in which the young graduate may be started to practice real scientific medicine.

In securing this practical training, special attention is directed to certain danger zones in medicine. In obstetrics, a goodly number of cases must be delivered under supervision, with an ample amount of experience in prenatal and postnatal care. In anesthesia, a specific service under supervision must develop sufficient skill to assure safety in the administration of the various kinds of anesthetics. In roentgenology, sufficient knowledge of technic must be secured to prevent dangerous experimentation, should the prospective practitioner desire later on to employ this accessory to diagnosis and treatment.

In the laboratory, the Board requires two months of exclusive service in which the intern performs the technical work in clinical microscopy, pathologic histology, bacteriology, physiologic chemistry, and serology. This must be performed under the immediate direction of a full-time pathologist, or a half-time pathologist and a capable technician. The clinical correlation is made by having the intern carry to the hospital and record on the charts all findings of special requisitions. The policy of permitting a divided service in laboratory work has generally proved to be futile. In this particular requirement, Pennsylvania hospitals are rather unique, and considerable criticism has followed our administration of the same. This technical laboratory experience is one essential factor in developing scientific physicians for future practitioners of medicine. It has been the impetus which has caused the establishment of many miniature laboratories in the offices of splendid clinical investigators, even in rural districts. The laboratory is the key to the scientific activities of the hospital. An alert pathologist may rejuvinate a blasé staff and resolve an infirmary into a research hospital school, provided he is properly encouraged. Such a wide-awake man has many followers, not the least of whom are the plastic, prospective practitioners. Thus, in these particular danger lines, a specific service is demanded. Should credentials fail to certify adequately to each, a "check-up" must follow before the documents may be accepted, and this investigation is made in our own as well as in outside hospitals.

If all candidates for licensure came from our own schools and hospitals, administration of the law would be simple. The adaptation of credentials to the spirit and letter of the law often presents perplexing problems. Medical schools in the United States and Canada are now quite definitely standardized. Their courses generally are faithfully given and their grades are worthy of confidence. Personal inspection, a very essential factor to accurate evaluation of credentials a decade ago, is not now so important in so far as medical schools are concerned. The exploiter in medical education has become so isolated as to be rather easily discernible. Any infidelity in curriculum function also soon becomes evident. A school approved by the standardizing agencies of our country must now stand four-square or fall.

In hospitals, however, no such reliable standards exist. So many variable factors obtain that it is doubtful whether an adequate standardization ever may be possible. The different types of hospitals obviously limit training to the specific class of cases treated. No limited type of hospital, we think, should be accredited for full service, even though the training extends over a year or more of time. In fact, these or elective services should be discouraged until after a well-balanced rotational service of at least a year's duration has established a thorough conception of the value of any branch of medicine in relation to the whole. Thus we may obviate an eccentric basic training and prevent the development of amateur specialists who are apt to accrue therefrom.

In too many hospitals the intern is required to make his place and find his work. He is looked upon as an essential servant within the hospital, to assist where necessary and whenever called upon, with no outlined program and with little time for reflection and study. He is yet too often considered as a high-class orderly who is cheaply maintained. On the other hand, there are some hospitals that are so electrified with the scientific spirit that every moment is eagerly used in following some interesting quest. Such hospitals are led in each department by a chief who quickens his assistant-intern into a ceaseless desire to aid each patient. He therefore develops that sense of responsibility which loyally stands by at all hazards and which baptizes the neophyte with a holy zeal for service—the most essential factor to the safe and sane practice of the healing art. Unless individual responsibility is placed upon some particular chief, no systematic apprenticeship training can be expected. Then the intern practically wastes the year, required of him by law, instead of finding it to be the most valuable of all the years in his professional study course.

The cry comes for more interns. Few hospitals which offer such a systematic course as outlined, and directed by an adequately organized staff, have any difficulty in finding their quota year by year. Any general hospital of 100 or more beds should be able to qualify. Special hospitals and those with fewer beds, we think, should employ on salary a qualified resident. The Board needs to concern itself more in securing a good training for interns than in supplying them to hospitals.

Inasmuch as many candidates for licensure come from outside the state, the problem of evaluating credentials becomes more difficult. Personal inspection, provided for by our law, serves well in securing assurance in any doubtful cases. The hospital credentials, however, require critical investigation. If our state system shall remain of any value, it must not be vitiated by the acceptance of less rigid demands from hospitals outside the state. Complaints are forthcoming constantly that we give credit for work in hospitals outside of the state which are far inferior to some of our own unapproved hospitals. The eagerness of the Board to minimize neighborly antagonism may give credence to this criticism. Since we may regularly inspect and thus approve or disapprove hospitals within our state, no credit is allowed for any service secured in an unapproved hospital in Pennsylvania. Many have very valuable professional work, and no reflection must be entertained as to the clinical services rendered to patients. Many are not approved merely because, for some reason or other, their organizations are not adapted to teaching purposes. The American College of Surgeons has approved about half a hundred within our state which our Board could not under the law approve for intern training.

How, then, shall we deal with credentials which are presented from a hospital located outside of our state and, therefore, outside of our jurisdiction? Shall we absolutely refuse to give any credit for the same? This, obviously, is unfair to the candidate. It furthermore limits our source of supply of valuable physicians. If this rule were made, it would limit us distinctly to can-

didates from our own state. We do not desire to do this although our yearly supply might make it feasible. The Board established a policy fourteen years ago which it has attempted to follow faithfully in relation to all candidates who had an internship in another state or in Canada. The plan is, briefly, to ascertain by questionnaire, by personal inspection, and by any other legitimate means, the type of training received, course of rotation followed, length of time served in each department, method of supervision, type of records kept, fidelity of the intern to his work and excellence of character exhibited during the year. If the record appears to have met the requirements of our law and those demanded of our own hospitals, the credentials are accepted. If any glaring deficiency has been found, it must be covered by supplementary work which the Board can approve. After an ample opportunity for the candidate to support his credentials, we thus decide each case upon its own merits. This policy satisfies each member of the Board as to the applicant's fitness under the law to be licensed. It also has proved to be the only rational method of administering the law. It is the method now followed by most states relative to scholastic education. The method may be followed by most states without prejudice to any, and we command it as the only reasonable way of evaluating credentials which of necessity vary too greatly to be safely accepted without individual determination.

With malice toward none, with charity to all, we cheerfully welcome candidates from New Jersey, New York, Ohio, West Virginia, Maryland, Delaware, our adjoining neighbors, and from any other state or territory, upon this broad basis, and we hope that candidates from our own state may meet a similar welcome elsewhere.

Discussion

Dr. James Sullivan, Assistant Commissioner for Higher and Professional Education, Albany, N. Y.: I am going to take up this matter from a somewhat different point of view from that at which Dr. Metzger attacked it. Of course, this subject may be considered from two angles: from the point of view of the laws governing education of the physician, and from the point of view of enforcement of laws after a physician has received his training and been duly licensed.

If I were to express merely my personal preference, but in no way committing the profession in New York State, I should say that in the six-year training which we require in New York, as compared with the six-year training required in Pennsylvania, I would prefer the Pennsylvania method. In other words, I personally feel that the one-year internship required in Pennsylvania, as it is administered according to Dr. Metzger's recital, is more valuable than the second year of college which we require in New York State as a preparation for entrance to the medical school.

Dr. Metzger has brought up some very interesting problems in the matter of education. He has pointed out to us the difficulty of securing uniform requirements all over the United States, an ideal which I believe will never be accomplished because of the extent of territory and the variety of demands and ideals of the various parts of the Union. As a matter of fact, progress probably is greater in the medical profession by reason of this lack of uniformity. I should fear the policy which would give over to the federal government the regulation of medicine throughout the country. I have a feeling that such a policy would tend to lower standards in order to make all the laws uniform.

Dr. Metzger has shown us some of the difficulties in the way of meeting this ideal of internship in hospitals. The advantage of it is no doubt very great, for it has some marked tendencies. In the first place, it has a tendency to encourage the intern when he goes into practice to continue his laboratory studies and to feel that there is a great deal to be done which he has not accomplished in his preparation for licensure. Whether it would, as Dr. Metzger rather hinted, influence the intern to practice in the smaller communities, I do not know. The greatest difficulty encountered in putting this into practice in New York State is that of hospital control. They evidently have the same difficulty in Pennsylvania. There is a tendency on the part of a large number of hospitals to force approval for internship or to use undue influence in getting their particular hospital approved by the authorities for intern work, not because they particularly want to educate the interns, but because they would like to have some service around the hospital in order to reduce expenses. That condition is found not only in intern work but in the work of nurses.

An examination system is not, in itself, a true test of the capacity of a man. It must be and should be combined with the training that lies behind it. However, it should not be given up for the very reason that it is valuable in conjunction with the training, and training given without testing is just as weak as testing given without training. An examination system, if properly conducted, can be made a guide to the medical schools which are in existence. We had a law passed in New York State this past year which empowers the Regents to exercise discretion, as a method of lessening the severity of the law with reference to admission to practice of people who are trained in other states or people who have not entirely adhered, because of certain good reasons, to the strict chronologic dates which are sometimes put into laws. The law reads as follows:

Chapter 537, Sec. I, Par. 51. Supervision of Professions. Conformably to law the Regents may supervise the entrance regulations to and the licensing under and the practicing of the professions of medicine, dentistry, veterinary medicine, pharmacy, optometry, and chiropody, and also supervise the certification of nurses, public accountants, certified shorthand reporters, architects, and members of any other profession which may hereafter come under the supervision of the head of the Board of Regents.

The Regents may by rule or order accept evidence of preliminary and professional education, in whatever state or country the same may have been obtained, for licensing a candidate to practice any such profession in lieu of that prescribed by the laws relating to such profession; provided it shall appear to the satisfaction of the Regents that such candidate has substantially met the requirements of such laws.

And the Regents shall have further power to endorse a license issued by a legally constituted board of examiners in any other state or country upon satisfactory evidence that the requirements for the issuance of such license were substantially the equivalent of the requirements in force in this state when such license was issued, and that the applicant has been in the lawful and reputable practice of his profession for a period of not less than five years prior to his making application for such endorsement. When the evidence presented is not satisfyingly sufficient to warrant the endorsement of such license, the Board of Regents may require that the candidate for endorsement shall pass such subjects of the licensing examination specified by statute or Regents' rule as should be required of the candidate to establish his worthiness to receive such endorsement.

In the event any person whose registration or license in any of the aforesaid professions is not legal or in the event any person who is not registered or licensed because of some error, misunderstanding, unintentional omission, or other cause which the Regents may determine to be excusable, shall submit to the Regents satisfactory proof that he possessed all the requirements prescribed by law at the time required for registration or license, or their equivalent, he may, by action of the Regents, receive from the education department a license or a certificate of facts under seal which may be registered by any county clerk and shall make valid the previous imperfect registration or shall remedy such failure to apply for or to receive such license, and such license or certificate shall include the date on which such person could or should have registered or could or should have applied for or received such license, and his registration or license, as the case may be, shall be deemed to have been valid and corrected from that date.

This gives to the Regents rather broad powers. There was one clause omitted which I would have favored, giving rather discretionary authority to the Regents, "that these shall be issued with the approval of a board or with the approval of the examining board of the profession in which such discretion is exercised." However, there is a danger of that being a little too flexible, for the Regents might sometime lose their balance and give to certain people the privilege of having a license endorsed when the professional board would say no, or the Regents might refuse a license when the professional board would be willing to grant it. I think the professional board is too busy to give advice on such subjects.

As to the enforcement, we feel that we made a distinct gain in our registration law. Personally I have not been quite able to understand the arguments of my friends in Brooklyn who were so bitterly opposed to the annual registration law. It gave us something that we never had before; that is, the power of enforcement. The Legislature will not distinguish between this profession and professions which run all the way from the medical to the architectural. However, the registration law did give us the money, and now we are able to employ a full-time man from the Attorney General's office. The reason we use the Attorney General's office is because we are enforcing a criminal and not a civil law, and the Educational Department does not wish to become involved in the enforcement of criminal laws. By getting a man from the Attorney General's office, putting him in the Educational Building, and having him give full time to enforcement of the Medical Practice Act we are able to accomplish something which we have not done before. The only objection which was very strongly made with reference to medical registration was that some physicians regard it as humiliating to be annually registered; but they have not emphasized that so much as the $2 fee which they have had to pay. Then, they objected to the nuisance of registering. Of course, any kind of annual dues is a nuisance. Most of the men have considered it an ideal arrangement, but some who have been forgetful and have failed to register have been penalized.

As to enforcement, the Medical Practice Act has included broadly all of the healing professions under the name of medicine and they are restricted to their particular fields of medicine. The chiropodist is allowed to do just surface surgery, although we had a proposed law this year for permitting osteopaths, who now are required to pass the same examination that the physicians do, to practice minor surgery. I opposed that because I do not know the difference between minor and major surgery and no one else seemed to be able to draw the line of distinction. We have inspectors who give us the evidence on which we base our prosecutions.

We shall have to educate physicians to the idea that when a man becomes a general paralytic or so senile that he is obviously incompetent, we should have a law which will permit us to make him stop practicing. At the present time our Medical Practice Act does not do that, and as a result we have had in some districts a very large percentage of mortality in childbirth, particularly along the Canadian border.

With regard to prosecutions, although the Medical Practice Act has been slow in getting into operation, it is justifying itself as the months go by. We are eliminating the so-called quack, the person who pretends that he can accomplish a great many things which we know he cannot accomplish and who is violating the law. An attorney said recently to his client, "The best thing is for you to obey that law." We are getting respect for not trying to compromise about this law.

Dr. Charles B. Kelley, Secretary Board of Medical Examiners, Jersey City, N. J.: Dr. Metzger's paper has been a very excellent résumé of a difficult task. There is no doubt that administration of the Medical Practice Act is a difficult proposition and becomes more difficult the more conscientiously the job is taken. It seems to me that the most important thing about the Medical Practice Act is its enforcement. A great many of the profession believe that the writing of the law on the book is the important part, whereas the enforcement is the part of the procedure that is of real importance.

The point Dr. Metzger brought out about the Medical Practice Act in all the states being different is, of course, very important. All of the laws are on the books for the purpose of safeguarding us, and yet no two are alike. Consequently, in the administration of the acts of the different states it becomes very necessary to assume a liberal attitude toward each other. It is impossible to follow that line absolutely strictly and, I think that in New Jersey and Pennsylvania the difficulty has been that the Pennsylvania Board has in the past endeavored to follow the line and let the chips fall where they might. The recent ruling of the Regents giving the Board a great deal of discretion would seem to me to be excellent, but even before that law passed there was no difficulty between the New York and the New Jersey Boards, though there are several discrepancies which, if the laws were administered absolutely rigidly, would have caused disruption. When Dr. Downing occupied the position now held by Dr. Sullivan this matter was adjusted. When Dr. Sullivan came in he picked up a discrepancy between the two laws, and a couple of candidates from New Jersey were rejected on that ground. In New York the law requires one year of practice in the state before a license can be endorsed from that state. Several young men had taken the New Jersey examination and wanted to be endorsed in New York. We straightened that out with Dr. Sullivan by writing him that they had had in New Jersey one year of internship and the examination was not given until the internship was completed, and they accepted him on that ground. It was just a matter of administering the *spirit* of the law rather than the *letter.*

New Jersey has, we feel, an excellent Medical Practice Act. It was one of the earliest acts in the country, being adopted originally in 1890. The present act was adopted in 1894 and, with a few amendments, is still in existence. It has become particularly valuable because the courts have upheld it on so many occasions that now one would be very much afraid to make any attempt to amend it because of the danger of spoiling what is already a very good thing. The latest decisions that are of great interest are from the Supreme Court of the state. They have handed down two decisions defining chiropractic, osteopathy, and electrotherapy, stating that electrotherapy is the practice of medicine and cannot be administered by an osteopath or a chiropractor. That decision sustained the lower court in one case, and in the other case reversed the lower court.

While we feel that we have an excellent act, we think that we could get a nearly perfect one if we could have a few changes. We undoubtedly need an annual registration law. The Board has been advocating it for a number of years but it has always gone down to defeat so far as the profession was concerned. Last June, at the State Society convention, the Board

presented a report which they stated was a frank appeal for the desirability and necessity of an annual registration law. The House of Delegates endorsed it, although in other years they had twice rejected it. Then, between the time of the convention and the meeting of the Legislature, the various county societies discussed it. Seventeen out of twenty-one endorsed the project; two went on record against it; two did not vote; and one county was vigorously opposed to it. There was a meeting held between the State Board and the Welfare Committee of the State Society and this particular county society and, while the Board is still hopeful that we may have an annual registration law, we are not sure of it. The arguments advanced against it were not concerning the payment of the $2 fee, but the fear that it would give the Board too much power and the thought that if we wanted to obtain money we should obtain it from the Legislature, all of which arguments, of course, are not valid, but, nevertheless, they were substantially advanced and the opposition was such that our idea of annual registration had to be abandoned.

I personally feel, too, that we should have a clause in the New Jersey law limiting the use of the title "Doctor." There has been an effort in the past to get that but we have never gotten very far. Governor Smith's statement at the time that he approved the Medical Practice Act in New York was excellent. He said that the title "Doctor" should mean what the ordinary person thought it meant—a *doctor*. He summed that up as concisely as any one could.

Another improvement we need is better financing. The New Jersey Board is badly handicapped inasmuch as we get no state appropriation. Both Pennsylvania and New York, I understand, do receive a state appropriation.

My last thought is in regard to the interstate relationship. New York and New Jersey have incompatibilities, and yet we are on the friendliest of terms. It is with a great deal of regret that we have to admit that Pennsylvania and New Jersey are not so amicable. Both states require one year of internship in a hospital. The New Jersey Board classifies its hospitals on four factors: as to the type of hospital, type of training, what they are prepared to do in the way of laboratory work, and various other essentials. This questionnaire is filed by the hospital. The second factor is the inspection of the hospitals by the hospital committee of the Board. There is no hospital registered in New Jersey that has not been inspected and in several cases reinspected by the Hospital Committee. The third factor is the rating given that hospital by the American Medical Association. Our requirements are practically those of the American Medical Association in regard to rotational service, the only difference being that we will accept a 75-bed institution and the A. M. A. requires a 100-bed institution. The fourth factor is the rating given a hospital by the American College of Surgeons. Only then does the hospital become satisfactory for intern training, and we feel, when those four factors are satisfactorily determined, that the hospital is equipped to give an all-round intern training. This applies to the hospitals in the state of New Jersey. For those outside of the state we accept the rating of the Board of that particular state.

That is where the break with Pennsylvania comes. They insist on their own classification rating, and consequently interns from several New Jersey hospitals were disqualified by the Pennsylvania Board largely on the laboratory and x-ray requirements of which Dr. Metzger has spoken. Among those hospitals were the Atlantic City Hospital and the Jersey City Hospital. Dr. Conaway will probably feel that the Atlantic City Hospital gives a very good general training to the intern, and I know the Jersey City Hospital does. The Pennsylvanians were straining at a gnat when they refused internships from the Jersey City Hospital and insisted that the training should be supplemented by two months' training in a laboratory. In one instance one man merely hung around in New York for two months to satisfy their laboratory requirements. That meant that recent graduates were being forced into Pennsylvania hospitals, and consequently the New Jersey hospitals were suffering from lack of interns. They began complaining to our Board, and we began negotiating with Pennsylvania but could make no progress. The New Jersey Board felt that it was manifestly impossible for any outside board to classify the New Jersey hospitals as well as the New Jersey Board could do it and we asked Pennsylvania to accept our system. They refused, and consequently, feeling that we were unable to classify Pennsylvania hospitals and in order to protect our own hospitals, we had to refuse the Pennsylvania classification.

We are sorry that any difference exists, and we stand ready to accept the Pennsylvania classification as soon as they will give consideration to New Jersey's classification of our own hospitals. That seems such a little difference that one wonders why it exists. Dr. Metzger will possibly answer by saying that their law requires it, and that is exactly the point I am pleading for; that is, an interpretation of the *spirit* instead of the absolute strict *letter* of the law. That would make the difference disappear as quickly as snow in the sunshine.

I think we can say that Pennsylvania has become very much more liberal in the past few years. Three years ago, when this particular break occurred, the breach between us was wide. Pennsylvania, we felt, had assumed a very arbitrary and dictatorial attitude. They have since modified that and have accepted internships from hospitals which they had in the past refused and, so far as I know, the type of internship has not changed particularly. Now, all we are asking for is to have them go a little bit further in their interpretation. We feel that our New Jersey hospitals are in many instances excellent institutions and that if the Board goes to the trouble of ascertaining the type of hospital, the type of training given the interns, and if we endorse that candidate to Pennsylvania, then Pennsylvania should be willing to accept our classification or at least to give it consideration. They have apparently modified their stand a great deal. I can appreciate what Dr. Metzger says about being criticized for letting people in from other states. Because some hospital does not give exclusive laboratory work, provided it does give a good general training—which Dr. Metzger says is what they want—if we certify that hospital to the Pennsylvania authorities we do not feel that we are asking so much to have them take our word for it. If they will give us some assurance today that they will continue their present attitude toward us, it will be perfectly satisfactory. They are now accepting our interns, and if they continue to do so it will be all right. As I understand it, the trouble between the Boards is not recent. It dates back some years. We are perfectly willing to assume the friendliest kind of relations, and I think the whole difficulty between the Boards can be wiped out.

Who shall standardize the intern training in the hospitals? I think that will eventually be done by the medical schools. Three or four schools are now super-

vising the fifth year, and if the hospital does not give the necessary training they will not send any more men there.

Dr. Harry R. Trick, President New York State Medical Society, Buffalo, N. Y.: I do not know any way in which differences can be better ironed out than by sitting around the table and talking as frankly as we have talked this morning. It is apparent that members from New York State cannot enter into the question of difficulties between Pennsylvania and New Jersey very discreetly, but I have felt that this discussion has taken up really two phases. It has to do first with qualifications of the recent graduate, and later, the way the graduate lives up to the regulations in his particular state. Of course, it is quite evident that each community is endeavoring to produce physicians to meet its own needs. I presume that is the basic reason for the difficulty in establishing federal control: the needs differ so widely that either some states would be obliged to give up any attempt to meet the standards or others would have to come to a lower standard.

I had the impression that these various standards had their origin in the work of organized medicine, that the medical profession had realized the type of man that is most desirable and for that reason we are determined on certain qualifications in medical schools and certain standards for graduation and in practice. The great difficulty in establishing standards is that it has to do so much with the scientific side of medicine. I have felt with a great many others that what we need is more of the *art* of medicine. Some of the schools and hospitals that Dr. Metzger mentioned which do not meet with approval of the Pennsylvania State Board have been approved by the American Medical Association and by the American College of Surgeons. The minimum standard of the American College of Surgeons was devised with the idea of the care of the patient, not so much the education of the intern. I know that some of the smaller hospitals can furnish material for development of the art of medicine. Some of these hospitals are over-organized. It is impossible for an intern to see service in all the different groups within twelve months. I do not know how we are to take care of that. Of course, a minimum standard must be determined. But it has this great disadvantage: We have found that when interns have been through the various laboratory sections they get so accustomed to that sort of work and coöperation that they fear bedside diagnosis, and for that reason they do not get far away from the apronstrings of the hospital, and our large communities are overburdened with these graduates while the more remote sections have not enough physicians. We might develop a way of making use of these hospitals for the young physicians, putting them on their mettle, so to speak.

The past administration in our State Society made the attempt to survey the hospitals of the state, not so much from the standpoint of their availability for intern service as for character of work they are doing.

In regard to the difficulties of getting the Medical Practice Act across in our state, we found the same arguments that were mentioned by Dr. Sullivan, the nuisance of registering, occasionally the complaint about the fee of $2, and the fact that they feel it is a police duty of the state to enforce the medical law in the same way that the banking laws are enforced, and not a part of our work as a medical profession. However, Governor Smith said very frankly that the state had not any money for enforcing these acts regarding professional activities but that perhaps later on the state would take it over.

Dr. Wilmer Krusen, Philadelphia, Pa.: It seems to me that these differences between the states of Pennsylvania and New Jersey are not insuperable, that they may all be ironed out by just such a conference as this. This whole question of medical education and internship is so vital that the differences are not really very serious among the three states. As we all fully realize, we have a fight on in all of our legislatures on medical enactments. We cannot afford to have differences among ourselves when we have a swarm of enemies represented by the cults, the faddists, and the antis attacking regular medicine. The representatives of the state medical societies must arrive at definite conclusions and amicable agreements.

Dr. Frank C. Hammond, Philadelphia, Pa.: Students from medical schools outside the state of Pennsylvania cannot always get an internship in Pennsylvania, and those who desire to go out of Pennsylvania cannot always secure an approved hospital appointment. I have always suggested to students seeking a hospital appointment in another state that they inquire whether the Board approves before they accept the internship or even consider applying to the hospital. The Pennsylvania Board of Medical Education and Licensure supplies a list of all the hospitals of the state with partial or full internships. Students often complain that the American College of Surgeons approves a certain hospital outside of Pennsylvania while it is not approved by the Board. I would ask Dr. Metzger whether it is a correct procedure to follow, to advise these boys to communicate with the Board before they seek an internship outside of Pennsylvania?

Dr. Joseph S. Lawrence, Albany, N. Y.: I am particularly impressed with the thought that we are concerned primarily with protection of the public. The idea is to guarantee to the public that the man who goes out to practice medicine is fully qualified to do so, and our efforts are really along that line, although sometimes they may be interpreted as jealousy or selfishness. If we did not think we had the public support for what we are trying to do we would be willing to modify it.

It seems to me that the idea originally, in giving a hospital course, was to give the medical student an opportunity to try himself out in the presence of those who would supervise him. As a matter of fact, isn't the boy today actually leaving the hospital with less valuation of himself than before, especially in these very large hospitals in the city? That may have something to do with the concentration of physicians in the vicinity of large hospitals. I was wondering if, as stated here repeatedly, there are hospitals eminently qualified to give internship but which for some reason or other do not measure up completely. We have a large number of hospitals in New York State which cannot secure interns simply because of this method of rating hospitals. If a man went there he would probably get more opportunity and be more capable of taking care of the public who may appeal to him when he begins practice.

There is another influence about a large hospital that may not have been properly evaluated; that is the environment of which the student naturally becomes a part and by which he is affected to some undetermined degree in association with the specialists who charge large fees. Doesn't he get an economic diversion or twist there that will influence him? He will see young

men who are capable of drawing enormous incomes and he will conclude that it is because they are practicing where money is available, and, therefore, why should he, a man of equal capabilities, sacrifice himself by going into some small locality and struggling to make a living? He will argue that it will take time, but in the end he will be somebody. There were a number of young men in my own class who voluntarily sacrificed a number of years at the Johns Hopkins Hospital, with no possibility of more than $500 annual income, simply for the sake of being associated with such men and hoping finally to locate themselves in a good warm nest.

Dr. Frank Overton, New York City: New York State is doing a great deal quietly through the Grievance Committee. Dr. Sullivan has stated that at least 1,000 illegal practitioners have gone out of New York State, and it is also claimed that one has a hard time to secure a chiropractic treatment in Manhattan. Whenever a report comes in about some quack who is practicing we find that Dr. Rypins has known all about it and has been trying to get legal evidence in the case. Dr. Sullivan's department is getting this evidence, and the quacks are leaving New York State.

Dr. Arthur W. Belting, Trenton, N. J.: The New Jersey Board of Licensure very sincerely hopes for an adjustment of the differences that exist. It is a splendid thing to have a tribunal where these differences may be presented and adequately adjusted. We must coöperate and get the common viewpoint, not be too divergent. Our relationship with New York has always been very delightful. We have no desire, personally or as a Board, to lower the standards of medical practice, and as president of the Board I hope we shall be able to reach a solution of these problems that will work for the common weal.

Dr. Henry O. Reik, Atlantic City, N. J.: Dr. Kelley has reported the difficulties we have had this past year in getting a physicians' registration law. I hope he is not discouraged, because I have a feeling that another year will probably give us that law. That question is coming up most likely in the House of Delegates at the State Society meeting next week. The vast majority of our county societies are in favor of it, but the largest county in the state, acting upon misinformation and prejudice, was able to block the matter this past year. The officers of the State Society were so desirous of pleasing everybody that they called an unfortunate meeting at which all the antis had an opportunity to talk and those who favored the law had no opportunity. If it is presented next week it will doubtless be endorsed almost unanimously.

I look upon this as something like a medical league of nations where I would correspond to one of America's observers sitting in. I was very pleased with the way Dr. Metzger placed the question before you, and cannot quite fully express my appreciation of the way Dr. Kelley responded in the discussion. I would not have believed it possible for any Irishman to talk so pacifically, and I believe they could easily settle this between them.

I was a bit shocked to see in the *Journal A. M. A.* of March 24th, "Class A" applied to a few hospitals in New Jersey which I feel sure do not deserve the honor. I am even more surprised to learn today that the Atlantic City Hospital has not been so recorded. If I were to judge it from the reports which pass through my hands I should have been inclined to classify it as one of the best hospitals in New Jersey. It needs another inspection, and I hope will receive a proper classification.

It is not possible for the different state Boards to accept the College of Surgeons' classification, or that of the A. M. A., in all instances, and if the Boards have not of themselves sufficient facilities or power to make classifications that each can accept from the other, would it be possible, for instance, for the Pennsylvania Board to accept what Dr. Sullivan might possibly call a Court of Equity procedure—a classification by the medical profession itself? We have in the New Jersey Medical Society a Committee on Hospital Standardization. I think it has not been functioning very actively in the past few years, but there we have available a body selected by the State Medical Society for just such a purpose. Would it be possible to accept such a classification coming from the State Society?

Dr. Arthur C. Morgan, Philadelphia, Pa.: Dr. Sullivan referred to the police duties incumbent upon all state Boards. That has been subjugated, perhaps properly just now, so that the other phases of our discussion might be paramount, and yet the matter of police duty on the part of these state Boards of Education and Medical Examiners is a very important part of their work. When they take the oath of office they pledge themselves to enforce the police laws as well as the educational laws, and in order that our case may be strengthened before the public—and the bar of public opinion is important—it is necessary that we shall see that justice and equity are administered and that men and women who are practicing the healing art illegally shall be taken care of by the police powers of these state Boards. I do not mean particularly the cults themselves, although that thought may be introduced incidentally. I do have reference in particular to glaring inconsistencies upon the part of men and women practicing medicine who are permitted to carry on their nefarious work in an open manner and are not called to a halt by the state board whose bounden duty it is to enforce the medical practice act.

It was my privilege a short time ago to direct the attention of our State Board to the fact that in the telephone directories, particularly in Philadelphia and in Pittsburgh, there are recorded glaring illustrations of this point. The Department of Public Instruction is working very slowly I think, but I hope successfully and logically, but there has not yet come to me any evidence that they have manifested any activity along this line in spite of many illustrations of irregularities in our own ranks. If we can demonstrate to the people at large the fact that we are trying to clear our own skirts, then there will be less criticism when we proceed against the cults.

I have much hope for the future in the work that has been accomplished by the New York officials in the enforcement and carrying out of the Loomis Act. It was my pleasure to be at the State Medical meeting in Albany and to hear Governor Smith give that very human talk before the medical society. He went into detail as to what it means to use the word doctor. He told us in a very few plain words that if a man or woman claims to be a doctor the public thinks of him in the terms of a physician, not of a cultist, and because they have a Governor who has a human touch and a human sense of appeal they are greatly supported in the enforcement of the Loomis Act. We concede that much of the riff-raff that was driven out of New York has come into Pennsylvania. We are suffering thereby, but are hoping that the moral influence and the

moral activity of the enforcement of the Loomis Act will likewise bring a reactive enforcement of the police powers of Pennsylvania's Medical Practice Act so that these unwelcome guests shall be driven further. They cannot go into Ohio because they are prohibited from locating there. The activities of the State Society and the State Officers of Ohio and New York prove that the Medical Practice Act can be enforced in Pennsylvania as well as in neighboring states.

Dr. I. D. Metzger, Pittsburgh, Pa.: I want to return the same expression of good will that has been tendered toward our state by New Jersey. I must, as a member of the State Board, of course, defend the action of our Board. The president of the State Medical Society has just referred to some things which imply that we have not been doing as much as we might have. I want to state first that we are *administering* the law, we are not *making* the law, and in the administration of a law we must comply with its provisions. The Pennsylvania Act is exceedingly weak on nonethical practice. We cannot enforce a law against a nonethical practitioner. We sent an inspector to investigate a man at a medicine show, and to our surprise we found that it was headed by a physician who several years previously had his license revoked because he violated the advertising act which has to do with venereal diseases. After a great deal of consideration and several meetings, the Board was finally induced to restore his license. Personally, I opposed it to the limit, but was outvoted. Now, he is running over the state with his friends and we cannot get him, and that is true of a lot of these people. Because a doctor has an office and advertises himself as a chiropractor is not sufficient evidence against him and he cannot be arrested. We must secure evidence which holds in law.

We have not done more because of lack of funds. The registration fee was reduced to one dollar, and we have sufficient funds to maintain only two active investigators for the state and cannot afford to get aid from the Attorney General's office. They have been very gracious in advising us, but they say there are no funds available to set aside a deputy to take charge of this work.

Relative to the names of these so-called doctors in the telephone books, we have many of these fellows in Pittsburgh and in Philadelphia listed as doctors who are not doctors. The Telephone Company has promised to revise the list, but they are not especially interested, for if a man insists on having his name given as a doctor they will either have to list him in that way or turn him down as a telephone subscriber.

The suggestion made by Dr. Reik, relative to the classification of hospitals by the medical profession, I think is very good. The hospitals of the United States have improved more than any other institution you can think of during the last five to eight years. It is marvelous to me to see the advancement made in all the institutions. The Jersey City Hospital is now giving a rotational type of training, which meets the requirements of our law, to persons whom they know are going to Pennsylvania to practice. They are emphasizing the particular things upon which we have insisted. That is true of the Massachusetts General Hospital, of the Peter Bent Brigham Hospital, and of the Johns Hopkins Hospital. The army hospitals also have adopted a rotational course of training, emphasizing particularly laboratory and x-ray work. The National Board of Examiners has insisted that all applicants, if they desire to get a license in Pennsylvania, shall have a rotation of internship. This past week a doctor applied for license who is now a teacher in Vanderbilt University. He had six months of internship and did some laboratory and research work for a year which was accepted by the National Board as supplemental to his internship to complete the year's time. He then applied for a license in Pennsylvania and was told that he could not get it on that internship. This general change in the method of administration in hospitals is one of the best signs on the horizon of medicine. The medical schools are standardized quite well. It is in that element of personal inspection with which our law has constantly come in conflict with laws from other states. The former president of our Board was a stickler for that, and some of us have absorbed a good deal of his training. In addition the régime had been built up and had to be followed out in order to be consistent.

In reply to Dr. Hammond's question, I think it is only fair to a student who would like to take an internship outside of the state to have him write to our Board and ask about the matter. We would say to him that the Pennsylvania law requires a rotational type of training in which these specific things are checked up. If you get that training and the supervision has been adequate, there will be no trouble about coming into Pennsylvania. If you are found deficient in certain things we must request you to supplement your work with those particular things.

In the matter of classification of hospitals, that of course, is the whole crux of the thing. Under our laws we cannot accept a classification made by some other agency of schools or of hospitals. The law specifically states that it must be approved by the Pennsylvania Board.

Dr. Krusen: I assume you could accept a classification made by some other examining agency in which you have confidence?

Dr. Metzger: We may accept that, of course. We do not reject an applicant from a medical school just because of the fact that we have not inspected that medical school. If other agencies give a good report of the school and if our Board has not rejected the school, then the Board has the discretionary power to accept the candidate, and that has been done.

A couple of years ago I was sent up to Nova Scotia to inspect the medical school there, and on that authority I inspected also the school in St. Johns. We are constantly inspecting hospitals as well as schools, and endeavor to obtain personal data so that we may act intelligently. I can understand how much easier it is to accept the evaluation of the American College of Surgeons and of the American Medical Association, but, unfortunately, their basis for evaluation is entirely different. The American College of Surgeons regards not so much the kind of training the intern is given, but rather the type of organization in relation to the management of a hospital. The American Medical Association, however, is advocating very strongly a rotational type of service, and yet it approves hospitals which do not have it. The Presbyterian Hospital of New York, which we all recognize as a good teaching institution, gives no obstetrics at all in the hospital training. We have frequently had applicants from there, and in practically all cases they have had their training supplemented before making application because they know that is required.

The whole point, then, is that under the existing law in Pennsylvania we must assume the responsibility of

satisfying ourselves relative to each case. There is no discretionary power there excepting the evaluation of credentials, and they must be presented so as to give us the information we want. I am hoping that many more of the New Jersey hospitals will meet the requirements. We have really gone beyond our rights in accepting some candidates rather than antagonize other states. I always regret to find a candidate from an outstanding hospital which does not give rotational service. They cannot understand why we require that apprenticeship training when the A. M. A. and the American College of Surgeons do not require it. It is very important because the man who does not want the laboratory work is the man who should have it, and the man who does not like obstetrics should be required to know something about it.

Dr. Lawrence raised the question whether the hospital training does not weaken self-reliance. Certain types of hospital training do. If an intern is compelled to work under a superintendent who tells him each day to do certain things he will not be greatly helped, but where the outline of training is definite and the man is made responsible for the work of which he has charge, he gains more self-reliance. If the chief is away, the intern and not the nurse should be made responsible for the patient. If a man is found who does not show a sense of responsibility, he is not allowed to take the examination.

Dr. Morgan: Is there any other State Board that has such rigid requirements as Pennsylvania has established?

Dr. Metzger: The state of Michigan has. Perhaps we are going too far. We have accepted the candidates from New Jersey just as we have from other states. Each case has to be determined as to whether it meets the requirements of our law and, in spite of the fact that New Jersey has ruled against us, we have not ruled against them.

Dr. Reik: Where you cannot make an inspection yourself, do you accept a report from the State Society if assured that their tests were up to your standard?

Dr. Metzger: Yes, if the Advisory Board has made those tests we will accept their report. I think the State Board should do that because they have the authority that another body would not have, and for that reason it should be under legal direction. The Pennsylvania laws are established on this basis of personal inspection and personal knowledge. How do we do about foreign countries? Last year we had an applicant from the University of Rome. The Department of Public Instruction satisfies itself as to the preliminary education. It is difficult to do that, if there is a preliminary course of six years in which the medical course is included. The evaluation of that is taken in conjunction with the medical work. We require a certification from the University of Rome stating that the applicant was graduated at a certain time, and he must also submit the course of study which he has followed. This is viséd by the American consul. A photograph is required which must be identified and certified by the consul. We do not accept any foreign hospital credentials. They generally do not have them because an intern who goes into a hospital works as assistant to a chief, then goes to another chief as assistant, and his credentials are not of very great value so far as the whole subject of medicine is concerned. We require them to have an internship even though they were graduated before 1914. We must have some American credentials upon which we can check up. That was done under the advice of the Attorney General. We have found two cases during the last three years where the men had all the credentials but did not know the first thing about medicine when they came to the hospital. We have to check up very specifically on these cases. I do not feel that we shall have much trouble with New Jersey. We have in the past and must continue to determine each case on its own merits.

Dr. James Sullivan, Albany, N. Y.: We must agree with Dr. Metzger because we do about the same thing. We do not, for instance, accept the training given in fifty per cent of the Minnesota hospitals. We expect approved hospitals to provide the required educational facilities. We have hundreds of hospitals in New York State not one of which is registered for nurse-training-school purposes, but educational institutions must conform to our requirements. We have virtually the same thing as rotational training, and if we find that a hospital has not the kind of facilities to give the nurses training in surgical, medical, and pediatric work, we tell them they must complete their work in some other hospital. I understand Pennsylvania has that same system with their schools. The question of reciprocity comes in. I have always felt that we have no legal arrangements, but a sort of gentleman's agreement whereby we save ourselves trouble, for the training given in Pennsylvania is substantially equivalent to that given in New York, and therefore we accept it.

I have almost come to the conclusion that we shall have to do the same thing for hospitals in New York State that we do for schools: that we shall have to call upon the state to subsidize a hospital just as it subsidizes a school, for certainly the hospital service in our rural communities is insufficient. Even with the best of financial management our hospitals are very extravagantly handled. They feel, like a college president, that they always have a public to appeal to in order to make up the deficit.

It is a little difficult in our state to convince the average layman that the state is not being called upon to enforce professional laws. The architects want to have state enforcement of their rulings, so they put in their preamble "In order to guard the public health." All of these laws were originally put under the public-health laws and not the educational laws. We were enforcing public-health laws in the Public Health Department. Recent legislation has made it a part of the educational law of the state. It is hard to convince the ordinary layman in regard to architecture and engineering that you are not really enforcing a "trades union" rule. The undertakers have a law in New York State to put the embalmers under the control of the Educational Department and have them enforce the rules in their trade. Governor Smith said, "Gentlemen, if you expect to get this law through you will have to provide the funds yourself," and we accepted that as a dictum which the Governor himself would follow. We are trying to protect the title "doctor." I have consistently stood against the use of the term with reference to any profession other than dentistry, medicine, and veterinary surgery. The most serious mistake we ever made was to allow the optometrists that title simply because they had been using it.

Dr. Metzger: It is rather interesting that under the Pennsylvania laws as interpreted by the courts the term "doctor" is not a legal term. It is a scholastic term only; and therefore if a chartered school has granted the degree the recipient has a perfect right to use it and that cannot be used against the man in a trial

excepting as *prima facie* evidence that he is trying to misrepresent himself through his office and otherwise as being a member of the medical profession. Our law is very deficient on that point.

Dr. Kelley: Several points stand out rather prominently in today's discussion: First, that Pennsylvania has modified its attitude. In regard to the young graduate writing to the Pennsylvania Board to ask whether a certain hospital outside of the state would be acceptable under the Pennsylvania law, Dr. Metzger said that he would reply to the effect that if the rotational training was given by the hospital, the hospital would be inspected. Three years ago the Board was not writing that way. They said then that the Pennsylvania Board would make no promises as to what their position would be in regard to certain hospitals outside of the state, and that there was no reason for going outside the state for internship. Applicants were told to apply for a list of hospitals approved by this Board. That was one of the chief reasons for our break. We felt that it was forcing interns into Pennsylvania hospitals. I know of three cases of Jefferson graduates who would have gone into hospitals in New Jersey had they not received answers to that effect. They wanted later on to practice in Pennsylvania and therefore served their internships in Pennsylvania.

Further, Dr. Metzger says today that it is possible for the Pennsylvania Board to accept the standardization of another agency. That is all we are working for, and if they will continue that attitude we shall be satisfied.

Dr. Metzger: The question was asked whether this standardizing agency would assure us that the hospitals meet the requirements of the Pennsylvania Board. That is very essential.

Dr. Kelley: We will accept that. Dr. Metzger further stated that a form of the questionnaire and the rating of the A. M. A. and American College of Surgeons would not satisfy them. I added a fourth factor, the inspection of the New Jersey Hospital by the New Jersey Board. There is no hospital in New Jersey that is not fully inspected by the New Jersey Board, and we require practically the same essentials that the Pennsylvania Board does. I think there are very few exceptions to the rotational type of training, and we feel that we are requiring in the New Jersey hospitals just as high standards as does the Pennsylvania Board. The main thought is that there may be some little discrepancy in the absolute letter of the requirements, but there certainly is not in the spirit.

In answer to Dr. Reik, New Jersey was the second state in the Union to adopt the internship; Pennsylvania was first. Inspection of the hospital was originally in the hands of the Hospital Committee. Dr. McCoy is still chairman of that committee. After their work was completed it was turned over to the State Board to carry on. Incidentally, I can say that Dr. McCoy feels that our State Board is absolutely right in the stand we have taken in this particular controversy.

The last thought is that Pennsylvania is accepting hospitals now which they have formerly rejected. If they will go on maintaining their present attitude we have absolutely no quarrel with them.

Dr. Metzger: I can promise that conditions will continue as they are at present so long as I am president of the Board.

Dr. Reik: The State Society Committee has not, I believe, made an inspection for some time. Conditions have changed somewhat in the past five years. I think we can give Dr. Metzger assurance that our committee can be regalvanized into life, and that it will work on a standardization basis satisfactory to both states. If that plan offers any prospect of having the Board do better work than the College of Surgeons or the American Medical Association has done, there should be no difficulty about starting it.

Dr. Metzger: I may state that at the last meeting of the Board to study the Pennsylvania law, it was decided by a majority that the preliminary training shall be two years college work, and evidently that will be recommended in the final drafting of the bill. Our Board has felt all along that one year of college work was perhaps sufficient to comprehend the medical sciences, and has not urged two years.

Dr. Arthur W. Belting, Trenton, N. J.: So long as the Pennsylvania State Board of Licensure holds itself out as the best qualified body to rate interns, in like manner the New Jersey Board of Licensure, I feel, is the best qualified to rate its New Jersey hospitals. It is my opinion that members of the State Board of Licensure are the best informed as to the present and future qualifications of medical standardization. Not to speak disparagingly of any other committee, it would seem to me that any committee composed of the New Jersey State Board of Medical Licensure would be par excellence the committee to rate our hospitals. This committee is nonsectarian, and its knowledge is based on scientific information.

Dr. Metzger: Does the Board have an outline of your requirements? I should be glad to have it.

Dr. Kelley: A copy will be sent to any one who is interested.

The chair requested that a copy be sent to each person present.

Dr. Reik extended an invitation to the Tristate Conference to hold its next meeting in New Jersey, in October or November.

Upon motion of Dr. Lawrence, duly seconded and carried, the program for the next meeting was left to be determined by the host.

Dr. Morgan said there had been some discussion as to whether the former members of the Tristate Conference and the ex-officers should continue to take part in the meetings. Expressions had been received from some of the former members indicating a desire to continue as members.

Dr. Reik made a motion that the ex-presidents of the three state societies shall be continued as members of the Tristate Medical Conference so long as they show an interest; which was seconded and unanimously passed.

WRITING DEATH CERTIFICATE

Harold B. Wood, Harrisburg, Pa., says that many defects appearing on death certificates would be readily corrected by a better understanding by physicians as to the requirements and uses of these records. The death certificate, next to the birth certificate, is the most important official record made of man. It is of the greatest importance, therefore, that this record be made accurate and complete. In the matter of inheritance and other legal matters, the family of the deceased deserve protection by a correct certificate. A misunderstanding by physicians with regard to the requirements of death certificates yields errors giving an opportunity for numerous criticisms.—*Journal A. M. A.,* May 12, 1928.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

SCIENTIFIC PROGRAM

SEVENTY-EIGHTH ANNUAL SESSION

Allentown, October 1-4, 1928

GENERAL MEETINGS

HIGH SCHOOL AUDITORIUM

Tuesday, October 2d, 10 a. m.

Call to order by the President.
ARTHUR C. MORGAN, Philadelphia.

Invocation.
REV. WILLIAM C. SCHAEFFER, *Pastor St. John's Lutheran Church,* Allentown.

Address of Welcome.
THE HON. MALCOLM W. GROSS, *Mayor City of Allentown.*

Address of Welcome.
HOWARD B. ERDMAN, *President Lehigh County Medical Society.*

Presentation of Program.
O. H. PERRY PEPPER, *Chairman Committee on Scientific Work.*

Announcement of Scientific Exhibit.
WILLIAM C. TROXELL, *Chairman Scientific Exhibit.*

Announcement of Entertainments.
THOMAS H. WEABER, *Chairman Local Committee on Arrangements.*

Introduction of Delegates from other Societies.

Installation of the President-Elect.

President's Address.
THOMAS G. SIMONTON, Pittsburgh.

Wednesday, October 3d, 10 a. m.

10-10.55 a. m. Case Reports

(Five minutes each)

1. Perforation of the Sigmoid and of the Small Bowel into Uterus, Secondary to Diverticulitis of the Sigmoid.
   CHARLES B. NOECKER, Scranton.
2. Perinephritic Abscess Causing Pelvic Abscess.
   HARRY A. DUNCAN, Philadelphia.
3. Tuberculosis of the Thyroid.
   HAROLD A. KIPP, Pittsburgh.
4. Vertigo from Impacted Molar Teeth.
   HORACE B. ANDERSON, Johnstown.
5. Thrombosis of the Pulmonary Artery Causing Polycythemia.
   HENRY D. JUMP and FRIEDA BAUMANN, Philadelphia.
6. Streptococcus Angina with Symptoms Simulating Acute Poliomyelitis.
   SAMUEL T. NICHOLSON, JR., Pottstown.
7. Primary Aplastic Anemia; Administration of Liver Extract Without Effect.
   ELLIOTT B. EDIE, Uniontown.
8. Simple Cyst of the Liver (Lantern Demonstration).
   FORD M. SUMMERVILLE, Oil City.

General Discussion (15 minutes).

11-11.55 a. m. So-Called Minor Procedures Requiring Major Precautions

Dilatation and Curettage of the Uterus (15 minutes).
FRANK C. HAMMOND, Philadelphia, *Principal.*

OUTLINE. A too frequently performed procedure. Should be limited to the removal of retained secundines, and for diagnosis. The dangers, contraindications, and tragic results.

Tonsillectomy (10 minutes).
WALTER D. CHASE, Bethlehem.

OUTLINE. What constitutes an expert tonsillectomy? (a) Patient who requires it; (b) patient in condition for it; (c) competent operating force; (d) suitable place for doing it; (e) special features of operation; (f) proper postoperative care.

Vaccines (10 minutes).
ALLEN G. BECKLEY, Philadelphia.

OUTLINE. The intravenous use of vaccines, whether used as foreign protein or as a specific vaccine. Marked reaction, or the so-called shock reaction, should be avoided, particularly in the presence of myocarditis. Cautious use of vaccines in prolonged fevers with certain complications.

Intravenous Medication. Spinal Puncture (Lantern Demonstration) (10 minutes).
HAROLD W. JONES, Philadelphia.

OUTLINE. *Intravenous medication:* Some of the untoward results from its use. Technic. Phlebitis and its most common causes. Untoward results with mercurochrome; ortho-iodoxy benzoic acid; sodium iodid; sodium citrate; metaphen; arsphenamin; blood transfusion; fontanelle injections. Changes in the blood itself. A plea for greater conservatism and more careful use in intravenous medication. *Spinal Puncture:* Dangers and untoward results. Sudden death following spinal puncture; report of three cases. Prolonged headache, nausea, and vomiting, sharp fall in blood pressure, painful back. Demonstration of cisternal, lumbar, and venous punctures.

General discussion (10 minutes).

12 Noon-12.55 p. m. Symposium Arranged by Committee on Public Relations

Diphtheria Prevention (12 minutes).
EDWARD L. BAUER, Philadelphia.

OUTLINE. Observations based upon intensive study and application of most modern methods of diphtheria prevention over a period of ten years. The frank indication of benefit to individual and community is not isolated in its beneficent effect, and has a mathematical regularity in its protective attributes. The relation of toxin-antitoxin and sensitivity to protein affords an interesting study, and the method of procedure for proving its position as a safe serum merits discussion. The physician's duty to himself and community is worthy, too, of full discussion because the profession must bring itself to a united and actively progressive attitude regarding its use.

What the Fifty-Million-Dollar Bond Issue will Mean to the Mental Patient and Scientific Mental Medicine (12 minutes).
J. ALLEN JACKSON, Danville.

OUTLINE. Using as a background the present situation in Pennsylvania's care of the mentally ill, the author endeavors to present a reflection of the expenditure of this fund in increased physical facilities, care of the mentally ill, advantages to scientific medicine, and Pennsylvania's position in the mental-hygiene movement.

The Present-Day Cult Problem (30 minutes).
PAUL CORRELL, Easton.

OUTLINE. The present-day physician in our Commonwealth is highly trained. Engrossed in the practice of his profession, he is too often oblivious of civic and economic problems. It is his duty as a citizen to participate in the solution of such problems in his community. None is better qualified culturally and socially to help mold public opinion. The cult movement of today is largely the result of past indifference of physicians to matters of political importance. It is necessary for the physician to be cognizant of the present menace of the cults. It is his duty to instruct the layman concerning these dangers. A favorable public opinion is necessary to the preservation of the present efficient Pennsylvania laws governing medical education.

Thursday, October 4th, 2 p. m.

2-2.55 p. m. The Present Status of Some Recently Introduced Therapeutic Measures

Synthalin and Neosynthalin in the Treatment of Diabetes Mellitus (10 minutes).
GARFIELD G. DUNCAN, Philadelphia.

OUTLINE. Brief review of the literature on the subject to date, with personal observations since June, 1927. Particular attention to indications, administration, effects, and contraindications as affected by age of the patient, severity of the diabetes, proportionate make-up of the diet, and complications. The untoward effects are discussed.

The Clinical Use of Para-thor-mone, With Special Reference to the Effect in Hemorrhage (10 minutes). BURGESS LEE GORDON, Philadelphia.

OUTLINE. The effect of transiently increasing the amount of available calcium in the circulating blood appears to have special value in treating hemoptysis and edema due to certain causes. It has been found of value also in preventing hemorrhage in jaundice and in various postoperative conditions. The plan of administration is outlined.

The Use of Germanin (Bayer 205) in Multiple Sclerosis (10 minutes). GEORGE WILSON, Philadelphia.

OUTLINE. Excellent results are reported with the use of this drug in trypanosomiasis, and it has also proved of value in animal diseases, such as dourine, surra, and mal de caderas. Germanin is a white, loose powder, soluble in normal saline and in distilled water. It has no odor, a bitter taste, and neutral reaction. It is hygroscopic, can be kept in the dark for several weeks, and is not destroyed by sterilization. On the assumption that multiple sclerosis is due to a spirochete, germanin has been used in that disease, and the results are reported.

Liver Extract for Pernicious Anemia (Lilly 343) (10 minutes).
WILLIAM W. G. MACLACHLAN, Pittsburgh, *Principal.*

OUTLINE. Preparation of an extract containing the essential unknown substance that is of value in the treatment of pernicious anemia is desirable for several reasons. The nature of the extract and its method of preparation. Some difficulties encountered. Its practical application in the handling of the pernicious-anemia problem.

General discussion (15 minutes).

3-3.55 p. m.

The Treatment of Pelvic Infections.
GEORGE GRAY WARD, New York City (by invitation).

OUTLINE. General consideration of the etiology of pelvic infections—gonorrhea, tuberculosis, puerperal and abortal infections. Principles underlying the recovery from infections. Clinical observations on the treatment of acute pelvic inflammations.

4-4.55 p. m. Massive Gastric Hemorrhage

Gastric Bleeding from the Internist's Point of View (15 minutes). T. GRIER MILLER, Philadelphia.

OUTLINE. Incidence in various diseases. Means of recognition. Diagnostic and prognostic significance. Treatment, with special reference to medical procedures.

Hematologic Aspects of Gastric Hemorrhage (10 minutes). CARL E. ERVIN, Danville.

OUTLINE. The immediate and remote effects of massive gastric hemorrhage on the blood, especially as regards volume, hemoglobin and cell content, and differential picture. A series of personal cases reviewed, and an attempt made to evaluate the modification in the blood picture due to coincident infection.

Gastric Bleeding from the Surgical Point of View (15 minutes).
JOHN H. GIBBON, Philadelphia, *Principal.*

OUTLINE. It is a mistake to consider that gastric bleeding, especially of the massive type, necessarily means a lesion of the stomach or duodenum. It is an even greater mistake to consider operative interference indicated in every case of gastric hemorrhage. Familiarity with the extragastric conditions which may cause bleeding is essential, and the surgeon must be able to determine if and when operative interference is indicated. Many of the nonoperative methods of treating bleeding, such as blood transfusions, are often contraindicated.

General discussion (15 minutes) opened by DONALD GUTHRIE, Sayre.

SECTION ON MEDICINE

HIGH SCHOOL AUDITORIUM

OFFICERS OF SECTION

Chairman—JESSE L. LENKER, 232 State Street, Harrisburg.

Secretary—ELLIOTT B. EDIE, 812 Fayette Title & Trust Bldg., Uniontown.

Executive Committee—WILLIAM W. G. MACLACHLAN, Pittsburgh; O. H. PERRY PEPPER, Philadelphia; ROY ROSS SNOWDEN, Pittsburgh.

Stenographer—MRS. IRENE HILTON SNYDER, 1641 Marshall Field Annex, 25 E. Washington St., Chicago, Ill.

(Note—Essayists will please deposit original copies of their papers with the secretary of the Section when they have finished reading them. The Journal will not accept carbon copies.)

(Note—The ringing of the bell, announcing the beginning, the division, and the conclusion of each 55-minute period, is beyond the control of any officer of the Section. Ample warning of this fact, with frequent reference to time allotted, has been given all who appear on the program.)

In each 55-minute period in the Medical Section, essayists are allotted a total of 40 minutes, and general discussion 15 minutes.

Tuesday, October 2d, 2 p. m.

2-2.55 p. m. The Problems of Diagnosis in the Various Fields of Medicine

Problems of Diagnosis from the Standpoint of the General Practitioner.

Thomas A. Miller, Pittsburgh, *Associate.*

Outline. In the general practice of medicine, many complaints arise from minor ailments. Mingled with such conditions may be serious cases presenting somewhat the same general complaints. In the rush of routine practice, separation of minor from serious ailments requires quick and accurate diagnostic acumen. The more elaborate diagnostic methods cannot be utilized as a routine; hence, much depends on history and physical signs. An analysis of a series of routine patients is studied and presented.

Problems in Diagnosis from the Standpoint of the Specialist.

William W. Blair, Pittsburgh, *Associate.*

Outline. The diagnostic problems that present themselves to the specialist are of two kinds: first, the special condition for which the patient comes; second, the relation this special condition may bear to the general state of the patient. No specialist can ignore the latter problem. An analysis of these diagnostic problems in a series of eye patients is presented.

Problems in Diagnosis from the Standpoint of the Internist.

Roy R. Snowden, Pittsburgh, *Principal.*

Outline. To the internist come the more puzzling cases sorted out by the general practitioner. These cases require every method that may be of any aid in uncovering the true diagnosis. A series of 100 cases referred to the diagnostic clinic is taken as representative of the type of difficult and puzzling cases that require the most exhaustive studies medical science can give. The diagnostic value of clinical findings, laboratory and x-ray studies, and consulting opinion of specialists are tabulated and studied.

Discussion opened by William S. Thayer, Baltimore.

3-3.55 p. m. The Essentials for the Diagnosis of Pulmonary Tuberculosis

The Clinical Standpoint.

Henry R. M. Landis, Philadelphia, *Principal.*

The X-Ray Standpoint.

Henry K. Pancoast, Philadelphia, *Associate.*

Outline. The interpretation of roentgenologic evidences of pulmonary tuberculosis implies recognition of certain densities in lung due to exclusion of air from those portions of the pulmonary structure which are the seat of pathologic changes. All lung changes are the result of definite processes —fluid or cellular exudate, caseation or fibrosis. The different lesions may present various combinations of processes. Reinfection in different localities is characteristic of the disease, hence the great variety of appearances that may be encountered. The exudative fan or cone, with its various modifications, is a typical roentgenologic feature for study in early stages of the disease involving the parenchyma.

Discussion opened by C. Howard Marcy, Pittsburgh, and John J. Singer, Greensburg.

4-4.55 p. m. Some Aspects of the Treatment of Heart Affections

Prevention.

Francis J. Dever, Bethlehem, *Principal.*

Outline. In the registration area of the United States, among people over fifty years of age, approximately 140,000 deaths occur annually from heart disease. Studies in New York City among school children show that out of every hundred, approximately two have heart disease. Eighty per cent to ninety per cent of heart disease in children is due to rheumatism and allied infections. Etiologically, heart disease may be divided into an infectious group and a degenerative group. Preventive measures consist in prevention of infectious diseases, eradication of foci of infection, and annual health examinations to detect faulty hygiene and dangerous habits.

Rest and Exercise.

Alexander H. Colwell, Pittsburgh, *Associate.*

Outline. A general consideration of rest as applied in the treatment of diseases of the heart: (a) during the period of acute disability; (b) during the period of convalescence; (c) during the period of free adjustment to activity incident to daily work. Contrast of rest as applied to the treatment of inflammatory cardiac conditions and to those of the degenerative type. A consideration of the types of exercise used in treatment of cardiac disease. It is believed that exercise is the most beneficial in the cardiac neuroses. For the patient with organic heart disease, sufficient exercise is usually obtained in the daily routine of life.

Therapeutic Value of Quabaine Arnaud.

Leo H. Criep, Pittsburgh, *Associate.*

Outline. Origin of quabaine and comparison with strophanthin. Indications and contraindications for its use. Method of administration. Effect on electrocardiogram, heart rate, blood pressure, venous pressure, urine output, and clinical condition.

Wednesday, October 3d, 2 p. m.

2-2.55 p. m.

Myocardial Disturbances Due to Abnormal Thyroid Function.

Henry A. Christian, Boston, Mass. (guest).

3-3.55 p. m. Chronic Duodenal Stasis

Clinical Status, Diagnosis, and Therapy.

Henry L. Bockus, Philadelphia, *Principal.*

Laboratory Findings.

Harry Shay, Philadelphia, *Associate.*

Roentgen-Ray Diagnosis.

Bernard P. Widmann, Philadelphia, *Associate.*

Outline. A chronic disturbance is described which is either increasing in frequency or becoming more readily recognized. It varies from a very mild delay in the duodenum to extreme dilatation with prolonged retention of duodenal contents. Its etiology is protean. Some of the factors which will be discussed are: (1) pathology of the lumen of the duodenum; for example, ulcer, parasitic disease (hookworm, giardia, strongylodies); (2) lesions of adjacent viscera, pathology in the gall bladder, pancreas, stomach, colon, lymph glands; (3) so-called duodenal ilias or arteriomesenteric occlusion; (4) systemic diseases, such as syphilis, tuberculosis, carcinomatosis. An attempt will be made to build up a clinical picture of duodenal stasis and to emphasize the importance of various laboratory procedures, including duodenal-tube studies, blood chemistry, and x-ray, the latter being the most important diagnostic aid. In a few cases very definite changes in blood chemistry enable us to gauge the importance that duodenal stasis may attain. Finally, a brief discussion of accepted forms of treatment will be given.

4-4.55 p. m. Epilepsy

Present-Day Conception of Epilepsy.

Edward A. Strecker and Temple S. Fay, Philadelphia, *Principals.*

Outline. The presence of increased amounts of subarachnoid fluid in certain cases of epilepsy, determined by direct observation, encephalogram, and experimental studies, has been considered as a possible predisposing factor responsible for the convulsive seizure noted in these cases. The means of controlling fluid intake and output by dehydration was instituted to prevent the accumulation of subarachnoid fluid, noting the effect of this treatment on the number of attacks and their character. During the period of dehydration, relief and improvement in certain cases was striking, and warranted further investigation, so that the cause for the fluid delay was sought in the structures of the pacchionian body, which is largely responsible for elimination of the subarachnoid fluid. In connection with this work, Dr. N. W. Winkelman has made original and interesting observations on the structure of the pacchionian body. The results of dehydration and physiochemic factors in these cases are discussed.

Discussion. E. L. Bauer, Philadelphia, will discuss the value of the ketogenic diet, and George Wilson, Philadelphia, the relative value of drugs.

Thursday, October 4th, 9 a. m.

9-9.55 a. m. Case Reports

(Five minutes each)

1. Erysipelas and Diphtheria Occurring in a Patient with Diabetes Mellitus.

Adolph S. Gabor, Bethlehem.

2. Gross Hematuria in Very Early Renal Tuberculosis.
RALPH P. BEATTY, Uniontown.

3. Rectal Constipation Relieved by Pituitrin.
CHARLES D. AMBROSE, Ligonier.

4. Papillary Cystadenoma with Metastasis in the Pleura.
ELLIS M. FROST, Pittsburgh.

5. Acute Toxic Nephritis Secondary to a Suppurative Infection of the Pleura.
JOSEPH J. MEYER, Johnstown.

6. Polycythemia; with Notes on Treatment.
HOWARD G. SCHLEITER, Pittsburgh.

7. Cirrhosis of the Liver of Unusual Duration.
WALTER S. BRENHOLTZ, Williamsport.

8. Chronic Parathyroid Tetany.
WILLIAM J. FETTER, Pittsburgh.

10-10.55 a. m. Abdominal Pain from Causes Other than Lesions of the Abdominal Viscera

Neuralgia of Intercostal and First Lumbar Nerves.
JOHN BERTON CARNETT, Philadelphia, *Principal.*

OUTLINE. The lower seven intercostal and first lumbar nerves constitute the entire nerve supply of the anterior abdominal wall. Irritation of any causes pain and tenderness of the abdominal parietes. Parietal pain is more frequent than intra-abdominal pain. Mackenzie's theory that skin hyperesthesia indicates an intra-abdominal lesion is entirely erroneous. Errors in diagnosis and operation. Parietal location of abdominal tenderness is indicated on vigorous examination mainly by finding tenderness. The pains of parietal neuralgia are classified into four groups in accordance with their severity. Treatment depends upon the underlying cause, as neuralgia should be regarded as a symptom rather than a disease *per se.*

Abdominal Crises in Diseases of the Central Nervous System.
WILLIAM H. MAYER, Pittsburgh, *Associate.*

OUTLINE. Tabetic crises. Acute abdominal disorders may exist even in the presence of tabes. Meningomyelitis is often ushered in with severe abdominal pain under circumstances which make diagnosis difficult. Spinal tumor in the lower thoracic region commonly presents abdominal pain, often of a critical nature. There are outstanding features which make differential diagnosis possible.

Abdominal Pain Resulting from Thoracic Lesions.
THOMAS KLEIN, Philadelphia, *Associate.*

11-11.55 a. m. Some Clinical Syndromes Due to Endocrine Dysfunction

Hypofunction of the Thyroid Gland.
BENSON A. COHOE, Pittsburgh, *Principal.*

OUTLINE. The nature of the internal secretion of the thyroid gland and the effects of impaired thyroid activity upon the normal growth and metabolism. Pathologic changes found in the gland in states of underfunction. Brief consideration of the more marked forms of thyroid insufficiency as exemplified in cretinism and myxedema. Diversity of symptoms and physical signs arising from milder forms of hypothyroidism. Basal metabolic rate as an aid in diagnosis. Types of obesity encountered in hypothyroidism. Relation of thyroid insufficiency to dysfunction in other endocrine glands. Results of glandular therapy in clinical disorders due to hypothyroidism.

Pituitary Dysfunction.
LARRY D. SARGENT, Washington, *Associate.*

OUTLINE. Signs and symptoms resulting from pituitary lesions; manifestations of disturbed function; symptoms due to tumor; frequency, diagnosis, course, and treatment of pituitary disease.

The Clinical Manifestations of Ovarian Dysfunction.
SIDNEY A. CHALFANT, Pittsburgh, *Associate.*

12 noon-12.55 p. m.

Clinical and Pathologic Observations on Coronary Disease (Lantern Demonstration).
R. WESLEY SCOTT, Cleveland, Ohio (guest).

OUTLINE. Salient clinical features of both acute and chronic occlusion of coronary arteries in the light of the pathologic findings in a series of cases. Special attention to the more chronic type of myocardial failure over a period of months or years, without hypertension or valve disease.

SECTION ON SURGERY

CONSISTORY, FIRST FLOOR, MASONIC TEMPLE

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Tuesday, October 2d, 2 p. m.

2-2.55 p. m. Common Accidents of Industry and Their Treatment

The Frequency of Unrecognized Fractures of the Vertebral Column ((15 minutes).
LEVER F. STEWART, Clearfield, *Principal.*

OUTLINE. Twenty-five per cent of back fractures are not recognized by physicians and roentgenologists. Frequency of fractures of the spinal column without symptoms of nerve involvement. Frequency of compression fractures of the bodies of the vertebræ. The twilight area of the spine. Important signs and symptoms leading to diagnosis and x-ray confirmation. Early diagnosis mandatory. Treatment.

Prognosis and Duration of Disability of Common Industrial Accidents (15 minutes).
AMOS W. COLCORD, Clairton, *Associate.*

OUTLINE. Meaning of disability: (a) a state of body trauma—treatment, restoration of function; (b) a state of mind—dislike of work, love of idleness, amount of compensation and insurance, the game of malingering, the subconscious lie. Evil effects of idleness after a severe injury; stages of hospitalization, loaferization, and pauperization. A psychologic question—remedy, suggestion, when, where, and by whom? Some physical causes of prolonged disability: fractures, wounds, burns, back, skull, and brain sprains. List of common injuries; average disability in each.

Fractures of the Ankle Joint (10 minutes).
H. ALEXANDER SMITH, Wilkes-Barre, *Associate.*

OUTLINE. The importance of thorough reduction.

Discussion opened by SAMUEL P. MENGEL, Wilkes-Barre; HERBERT H. HOLDERMAN, Shenandoah; and LEWIS L. ROGERS, Wilkes-Barre.

3-3.55 p. m. Thoracic Surgery

Surgery in the Treatment of Pulmonary Tuberculosis (Lantern Demonstration) (15 minutes).
JOHN B. FLICK, Philadelphia, *Principal.*

OUTLINE. The benefit of compression of the lung by means of artificial pneumothorax is now well known, but the possibility of compression by means of a plastic operation on the chest wall is not generally recognized. Development of surgery in the treatment of pulmonary tuberculosis. Selection of patients for surgical treatment and risks of the operation. Operations other than thoracoplasty. Technic of thoracoplasty; mortality; results to be expected.

The Selection of Cases of Pulmonary Tuberculosis Suitable for Collapse Therapy (10 minutes).

Elmer H. Funk, Philadelphia, *Associate.*

Outline. Importance of rest generally and locally in treatment of pulmonary immobilization in selected cases. Indications for the different methods by which immobilization may be accomplished. Contraindications to collapse therapy. Brief report of cases illustrating the problems involved in collapse therapy.

The Place of Artificial Pneumothorax in the Treatment of Pulmonary Tuberculosis (15 minutes).

Abraham J. Cohen, Philadelphia, *Associate.*

Outline. Artificial pneumothorax in properly selected cases of pulmonary tuberculosis is capable of producing better and surer results than any other single measure. Treatment should be instituted early, before the contralateral lung becomes affected, before other organs are attacked by the disease, and while the patient is still in reasonably good health. It is not a measure of last resort. In uncontrollable hemoptysis it is the treatment *par excellence.* In tuberculous pleural effusions or empyema it is capable of complete cure in a large proportion of the cases—63 per cent of the former and 100 per cent of the latter. It has great economic value because it materially shortens duration of cure. Operation is simple, practically free from serious complications, but must be done with care and checked up with fluoroscopic and x-ray studies. There should be an understanding between patient and physician that once undertaken treatment should be kept up for from three to five years. At the Eagleville Sanatorium, in a series of over 200 cases covering a period of 15 years, results have been satisfactory in 70 per cent of patients, the majority of whom would have died if treated on the conservative plan.

Discussion opened by Alexander Armstrong, White Haven; George P. Muller, Philadelphia; and Robert G. Torrey, Philadelphia.

4-4.55 p. m. Cancer

Cancer in Pennsylvania (15 minutes).

Theodore B. Appel, Lancaster, *Principal.*

Outline. A statistical study of the prevalence of cancer in Pennsylvania as gathered from the records of the Department of Health over the period from 1906 to 1928, with particular reference to the increased prevalence of the disease and the factors which seem to have a bearing on the subject. Distribution of cancer deaths geographically, by occupation, and with reference to age, as compared with twenty years ago. Changes which have taken place in the cancer situation in the past twenty years.

General Education for Cancer Control (10 minutes).

Harvey F. Smith, Harrisburg, *Associate.*

Outline. Available methods for disseminating information to the public. Regular community health meetings in the hospital. Teaching early signs of cancer to all pupil nurses. Newspapers and magazines. By the physician in his daily contact with patients and through periodic health examinations. The interest of the physician can be aroused and his knowledge increased by the type of programs arranged by the cancer committee of each county society. A cancer or tumor clinic in each hospital, special study courses, such as was recently held in Philadelphia. Good results are possible through the coöperation of the State Health Department, the State Medical Society, and the American Society for the Control of Cancer.

The Place to Start Cancer Investigation (15 minutes).

Stanley P. Reimann, Philadelphia, *Associate.*

Outline. Cancer is a growth caused by an increase in the number of cells in a place where they have no business to be. Hence cancer investigation must start with growth and reproduction—the most fundamental of living phenomena. We must study why and how the individual cell obtains its nourishment and what it does with it. Since growth and reproduction are basic functions of the nucleus, the chemistry of nuclear activity, particularly in mitosis, is therefore the place to start cancer investigation.

Discussion opened by John B. Carnett, Philadelphia; Henry K. Pancoast, Philadelphia; and Jonathan M. Wainright, Scranton.

Wednesday, October 3d, 2 p. m.

2-2.55 p. m. New and Useful Surgical Procedures

1. The Mechanical Treatment of Trismus (5 minutes).
   George M. Dorrance, Philadelphia.
2. The Relief of Pain of Carcinoma of the Face (10 minutes). Francis C. Grant, Philadelphia.
3. Utility of Ligation in the Treatment of Buerger's Disease (10 minutes).
   Benjamin Lipshutz, Philadelphia.
4. Living Sutures in Modern Surgery (10 minutes).
   Oliver M. Warner, Wilkinsburg.
5. Two Useful Postoperative Procedures: Continuous Intravenous Administration of Fluids and Continuous Drainage of the Stomach by the Jutte Tube (5 minutes).
   Calvin M. Smyth, Jr., Philadelphia.

Discussion (15 minutes).

3-3.55 p. m.

Chronic Ulcerative Colitis.

Harvey B. Stone, Baltimore (guest).

Outline. Chronic ulcerative colitis is much more common than generally realized. It is a serious disease, obstinate, often disabling for long periods of time, and occasionally fatal. The cause is not as yet proved, although much work has been done on it. The treatment usually employed is medical, often with very slow or entirely unsatisfactory results. It should be more widely appreciated that surgical treatment offers hope of success in many cases which have failed to respond to medical treatment. Report of a number of cases of this sort, some of which would have been lost except for surgical intervention. It is possible to recognize two clinical types of ulcerative colitis, a milder form best treated by medical measures, and an intense form which often threatens life, and for which surgery should be promptly invoked. The principles of surgical treatment are essentially those of physiologic rest to acutely inflamed organs.

4-4.55 p. m. Symposium on Cesarean Section

The Cesarean Section; Its Mortality and Morbidity (15 minutes).

Edward A. Schumann, Philadelphia, *Principal.*

Outline. Recent literature announces the mortality of cesarean section in terms which are entirely too high. The operation is deprecated. Clinics with a low incidence of hysterotomy are praised. Necessity for careful division of types of cases in which section is indicated in order that definite knowledge may be attained as to mortality and morbidity to be expected in these various groups.

Is There a Place for Cesarean Section in Eclampsia? (10 minutes).

Frederick E. Keller, Philadelphia, *Associate.*

Outline. There are still some patients with eclampsia who die. There are also some who recover with a long and eventful convalescence—those in which the obstetrician wonders whether some other method of treatment might not have been better. Then, too, the case must be considered in which delivery is imperative, since elimination has not given the maximum result. It must not be forgotten that the accidents of labor, such as placental separation, are more common in the toxemic, and the patients with bony obstruction or deformity are as liable to toxemia as any other woman. Hence, certain selected cases will be considered as being best delivered by cesarean section and, owing to the eclampsia, without the use of a general anesthetic.

The Emergency Cesarean Section (15 minutes).

John A. McGlinn, Philadelphia, *Associate.*

Discussion opened by Edmund B. Piper and John Cooke Hirst, Jr., Philadelphia.

Thursday, October 4th, 9 a. m.

9-9.55 a. m. Case Reports

(Five minutes each)

1. Case of Gunshot Wound of Head (Lantern Demonstration).
   James H. Baldwin, Philadelphia.
2. A Case of Cancer of the Breast with Special Reference to Diagnosis by Means of Skin Prints.
   John O. Bower, Philadelphia, and Jefferson H. Clark, Philadelphia.

3. A Case of Hemorrhagic Pancreatitis Involving Only the Tail of the Pancreas.

JOHN SPEESE, Philadelphia.

4. Pancreatic Abscess Associated With Common-Duct Stones.

ROGER P. BATCHELOR, Palmerton.

5. Tuberculosis of the Cecum With Resection.

HARRISON A. DUNN, Erie.

6. Congenital Absence of Midportion of the Esophagus.

WILLIAM P. WALKER, Bethlehem.

7. Acute Empyema; Postpneumonic Pulmonary Atelectasis; Bronchoscopic Relief.

ETHAN F. BUTLER, Sayre.

8. Intestinal Obstruction Due to Hernia in the Duodenojejunal Fossa.

HENRY P. BROWN, JR., Philadelphia.

10-10.55 a. m. Symposium on Goiter

Pathogenesis of Toxic Goiter.

HAROLD L. FOSS, Danville, *Principal.*

OUTLINE. The effect of iodin on thyroid parenchyma, with special reference to the effect in true hyperplasia. The pathogenesis of exophthalmic goiter. The comparatively rare instance of adenoma. The need of a more careful pathologic classification. The nodular or so-called adenomatous goiter, often not adenomatous at all. Thyroid involution following the administration of iodin. Involution bodies and involution cysts in the production of nodular goiter. Discussion of the question whether or not the so-called adenomatous and exophthalmic varieties are phases of single disease. The rôle of iodin in preoperative preparation of patients suffering from goiter.

The Use of Iodin in the Treatment of Goiter; Dangers from Its Promiscuous Use.

W. BLAIR MOSSER, Philadelphia, *Associate.*

OUTLINE. Indications and contraindications to the use of iodin in treatment of goiter, with special emphasis on the use of the drug as a prophylactic measure in the prevention of endemic goiter. Its use in the treatment of adolescent goiter. Limitation of its use in relation to toxic goiter, and the contraindication to its use as a form of treatment of the long-standing adenomatous goiter.

The Present Status and the Surgical Treatment of Goiter.

JOHN W. STINSON, Pittsburgh, *Associate.*

OUTLINE. Differentiation of various types of goiters. Value of iodin in surgery of the thyroid. Surgical risk of the individual patient. Coöperation between internist and surgeon essential for best end-results. Surgical treatment.

Discussion opened by CHARLES H. FRAZIER, Philadelphia; DONALD GUTHRIE, Sayre; and SAMUEL P. MENGEL, Wilkes-Barre.

11-11.55 a. m. Symposium on Acute Intestinal Obstruction

The Diagnosis of Acute Intestinal Obstruction (10 minutes).

HOLLAND H. DONALDSON, Pittsburgh, *Principal.*

OUTLINE. Discussion of history of case, age, etc., as an aid. A careful unhurried examination of abdomen is important. Few laboratory helps. The rural physician and the hospital surgeon have almost equal chances to make the diagnosis. The disease is purely surgical, but the patient's life and health depend more on the family physician than on the surgeon. Prompt diagnosis and proper advice to the patient make it possible for the surgeon to save the patient. Delay, defeat of surgical efforts, death, is a common experience.

Mechanism of Death in Acute Intestinal Obstruction (15 minutes).

THEODORE K. KRUSE, Pittsburgh, *Associate.*

OUTLINE. Present knowledge regarding causes of death in acute intestinal obstruction. Blood chemistry and mechanical factors. Methods available to combat the fatal outcome.

The Treatment of Acute Intestinal Obstruction (15 minutes).

ELDREDGE L. ELIASON, Philadelphia, *Associate.*

OUTLINE. Discussion of the etiology with reference to the type of treatment indicated. Preparation of the patient for surgery, with special reference to the chemistry of the blood, administration of chlorid, glucose, and sodium bicarbonate. Indications and contraindications for jejunostomy and ileostomy. Discussion of the indications for palliative enterostomy, removal of the pathology, and removal of the pathology plus enterostomy. Factors influencing the choice of anesthetics. Postoperative treatment in detail, with special reference to complications.

Discussion opened by JOHN D. SINGLEY and W. WAYNE BABCOCK, Philadelphia.

12 noon-12.55 p. m.

The Pathology and Treatment of Pyogenic Infections of Joints.

D. B. PHEMISTER, Chicago (guest).

OUTLINE. Acute, subacute, and chronic forms of pyogenic infections of joints, changes in the articular cartilages, bone, and the synovia. Different characteristics of pyogenic and other types of infection. Pathology of chronic deforming arthritis. Effects of operation, extension, and active and passive immobilization in acute and subacute infections. Synovectomy, arthrodesis, and arthroplasty in chronic conditions.

SECTION ON EYE, EAR, NOSE, AND THROAT DISEASES

AUDITORIUM, FIRST FLOOR, NURSES' COLLEGE, ALLENTOWN HOSPITAL

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Tuesday, October 2d, 2 p. m.

2-2.55 p. m.

Chronic Ethmoiditis; Its Treatment, Conservative and Surgical.

ROSS HALL SKILLERN, Philadelphia.

OUTLINE. Forms: suppurative—(a) one or more of the anterior cells, (b) one or more of the posterior cells, (c) combined, affecting both anterior and posterior cells; hyperplastic—(a) localized hyperplasia (small polyps), (b) anterior labyrinth, (c) posterior labyrinth, (d) intracellular, (e) extracellular, (f) combined, (g) suppurative infection. Treatment: conservative; surgical.

3-3.55 p. m.

Conditions of the Upper Air Passages and Their Relation to Pulmonary Diseases.

G. CLYDE KNEEDLER, Pittsburgh.

OUTLINE. Relation between upper and lower respiratory tract: anatomic, physical. Disturbances of the upper respiratory tract affecting the lower respiratory tract: mechanical,

infectious, and chemical or irritative (external, affecting both upper and lower tracts). Conditions of the lower respiratory tract directly caused by upper-respiratory-tract pathology: asthma, bronchiectasis, relation to so-called influenza, bronchitis, nontubercular tuberculosis. Pathology of lower respiratory tract not caused but influenced by upper-respiratory-tract pathology: tuberculosis, (a) fibroid, (b) active. Treatment: rhinolaryngologic, general.

Discussion opened by I. Hope Alexander, Pittsburgh.

4-4.55 p. m.

Diagnosis of Antral Infection. Antral Pathology, Including Hypertrophic, Hyperplastic, Atrophic, Polypoid Tissue, Polyps, and Cysts. Studies with Lipiodol, X-Ray, and Clinical Findings. (Lantern Demonstration.)

Matthew S. Ersner, Philadelphia.

Discussion opened by George M. Coates, Philadelphia.

Wednesday, October 3d, 2 p. m.

Refraction Due to Chalazion.

Warren S. Reese, Philadelphia.

2-2.55 p. m.

The Relation Between Ophthalmology and General Medicine.

Harry Friedenwald, Baltimore, Md. (guest).

3-3.55 p. m.

Moving Pictures As an Aid in the Teaching of Ophthalmic Surgery (Lantern Demonstration).

Charles E. G. Shannon, Philadelphia.

Outline. The report is supplementary to that given by the author at the last meeting of the American Ophthalmological Society, in which reference was made to the definite entrance of moving pictures into the field of medicine and surgery. Moving pictures, including the much-discussed intracapsular operation for cataract as performed by Dr. Arnold Knapp of New York.

4-4.55 p. m.

Biomicroscopy in Industrial Ophthalmology; Medicolegal Aspects.

George H. Shuman, Pittsburgh.

Outline. Workmen's Compensation Laws have introduced the element of liability into every case of industrial injury. This is an important complication from the eye surgeon's standpoint, for it frequently calls for a definite opinion as to liability and disability which must be not only in accordance with law and justice, but which must be "put across" to lay minds who sit in judgment. Is the condition for which the patient has come to the eye surgeon due to traumatism and compensable within the meaning of the Workmen's Compensation Law? Types of cases in which slit-lamp microscopy makes it easier to answer this question. Slit-lamp versus haphazard methods of applying focal illumination. Reference to some of the newer concepts of traumatic lesions introduced by biomicroscopic observation.

Discussion opened by Francis Heed Adler, Philadelphia.

Thursday, October 4th, 9 a. m.

9-9.55 a. m. Case Reports

James E. Landis, Reading.
Frederick B. Harding, Allentown.
William L. Hertz, Allentown.
George E. Seiberling, Allentown.

10-10.55 a. m.

Diagnosis and Treatment of Laryngeal Malignancy, with Special Reference to Total Laryngectomy and the Use of the Mechanical Larynx.

John Edmund MacKenty, New York City (guest).

11-11.55 a. m. Herpes Zoster of the Cephalic Extremity

Neurology.

Frederick H. Leavitt, Philadelphia.

Ophthalmology.

Luther C. Peter, Philadelphia.

Otolaryngology.

William Hardin Sears, Huntingdon, *Principal.*

12 Noon-12.55 p. m.

Malignancy of the Tonsil.

Louis S. Dunn, Philadelphia.

Outline. Anatomy of the tonsils. Symptoms. Diagnosis. Treatment.

Discussion opened by Henry Dintenfass, Philadelphia.

SECTION ON PEDIATRICS

PARLOR, FIRST FLOOR, MASONIC TEMPLE

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Chairman—Zaccheus R. Scott, Westinghouse Bldg., Pittsburgh.

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Tuesday, October 2d, 2 p. m.

2-2.55 p. m. Symposium on Poor Appetite in Children

Unbalanced Diet as a Cause of Poor Appetite in Children (15 minutes).

Maurice Kemp, Allentown, *Associate.*

Outline. Anorexia in childhood is usually due to improper feeding. Misuse of fats and carbohydrates is the chief source of error. Overfeeding with milk. Early use of cereals and vegetables. Anemia as an effect of anorexia. Method of control of cases.

The Psychologic Treatment of Poor Appetite in Children (15 minutes).

Thomas J. Butler, Bethlehem, *Associate.*

Outline. Definition. Rational and empiric. Simple rules avoiding shot-gun formulæ. Reaction, physical and mental. Charts. Evidence of application of rules. Conclusions.

Alterations in the Mechanics of the Gastro-intestinal Tract as a Cause of Poor Appetite in Children (Lantern Demonstration) (15 minutes).

John Howell West, Easton, *Principal.*

Outline. Many cases of poor appetite in children are due to altered physiology and anatomic changes in the gastro-intestinal tract. The end result of these processes makes for defective elimination. Principal physiologic alterations. Anatomic alterations. Treatment: dietetic, postural, use of abdominal belts, use of sinusoidal current, employment of laxatives.

Open discussion (10 minutes).

3-3.55 p. m. Symposium on Bronchiectasis

Bronchiectasis in Children with Special Reference to Chronic Undernutrition (Lantern Demonstration) (15 minutes).

Edward S. Thorpe, Jr., Ardmore, *Associate.*

Outline. Incidence. Etiology: preceding pulmonary diseases, concurrent upper-respiratory-tract infections. Pathology. Symptoms. Diagnosis. Demonstration of selected typical cases. Complications: abscess of lung, malnutrition, renal disease. Treatment. Results in University of Pennsylvania series. Summary.

Bronchoscopic Treatment of Bronchiectasis in Children (Lantern Demonstration) (15 minutes).

William F. Moore, Philadelphia, *Principal.*

Outline. Extent of involvement. Kind of case best suitable for treatment. Age at which treatment should be instituted. Bronchoscopy as an adjunct to general medical treatment.

Obstetrical Paralysis (Lantern Demonstration) (15 minutes).

Voight Mooney, Pittsburgh, *Principal.*

Outline. Prolonged labor and difficulties with delivery are the predisposing causes of obstetrical paralysis; traction theory the accepted one. Pathologic types. The keynote of the paper is that the majority of patients recover if proper treatment is begun early. Disability is mainly due to deformities developed as a result of the paralysis. Treatment of the early cases and treatment of the neglected cases. Deforming elements of the late cases and their surgical treatments.

Open discussion (10 minutes).

4-4.55 p. m. Symposium on the Nervous System

The Psychology of the Normal Child (15 minutes).

Horace V. Pike, Danville, *Principal.*

Outline. The mental operations of the child are manifested in its conduct, and the object of this paper is to consider briefly the commonly observed manner in which children react to varying life situations, to the end that we may recognize the important rôle that psychologic operations frequently play in apparently obscure somatic conditions.

Dementia Præcox; Its Early Manifestations and Treatment (15 minutes).

George B. M. Free, Danville, *Associate.*

Outline. Dementia præcox, when fully developed, presents a very unfavorable prognosis, but an understanding of methods of treatment, either at home or in the general hospital, in many cases will abort the condition and prevent hospitalization in an institution for mental diseases.

Convulsions, Syncopal Attacks, and Headache—All of So-Called Obscure Origin (Lantern Demonstration) (15 minutes).

John D. Donnelly, Bala, *Associate.*

Outline. Important problems in private and clinical practice. A small series of cases reported which have been under observation for many months. Their interesting feature is that the cause was not recognized at first, or, as in two cases, it was not discovered. Importance of detailed and accurate history; unusual to obtain such on first visit. Additional information sought and added while under observation. Methods of study. Correlation of physical findings and essential points in history. Necessity of hospitalization of certain cases as aid in diagnosis. Lantern slides of studies. Treatment and its results.

Open discussion (10 minutes).

Wednesday, October 3d, 2 p. m.

2-2.55 p. m. Symposium on the Lymphatic System

Mesenteric Adenitis (Lantern Demonstration) (20 minutes).

John Speese, Philadelphia, *Principal.*

Outline. Etiology: discussion of the various factors playing a part in the development of the condition, with reference to its possible relationship with tuberculosis. Pathology: diagnosis, especially as differentiated from appendicitis. Symptomatology: in the majority of cases the symptoms are more or less characteristic and the correct diagnosis is possible in many instances. Treatment: advisability of surgical measures and the necessity of careful postoperative treatment and supervision of the patient by the internist. Analysis of cases operated upon, and study of end results from the follow-up of these patients.

Tracheobronchial Lymphadenitis and Its Associated Lesions (Lantern Demonstration) (25 minutes).

F. Maurice McPhedran, Philadelphia, *Associate.*

Outline. Lesions of the tracheobronchial lymph nodes are detectable radiographically when they contain calcium, or if they produce sufficient enlargement to bulge the nodes laterally beyond the opaque structures which surround them. When persistent respiratory symptoms and physical signs are present, accurate, preferably diastolic, radiographs will almost invariably reveal a pulmonary lesion. Signs and symptoms referable to uncomplicated tracheobronchial lymphadenitis are very rare.

Open discussion (10 minutes).

3-3.55 p. m. Symposium on Heart Disease in Children

Congenital Heart Disease in Children (Lantern Demonstration) (15 minutes).

Horace H. Jenks, Philadelphia, *Principal.*

Outline. Comparative frequency of congenital lesions in a children's heart clinic. Feeling of uncertainty and hopelessness in diagnosis of these lesions. Differentiation of congenital from acquired disease. Classification of congenital defects. The outstanding work of Dr. Abbott of Montreal. Cyanotic and noncyanotic groups. Certain lesions may be diagnosed with reasonable accuracy: septal defects, pulmonary stenosis, patent ductus arteriosis. Prognosis.

Treatment of Early Chorea and Rheumatic Infection in Children (15 minutes).

Emily P. Bacon, Philadelphia, *Associate.*

Outline. Brief summary of changes in conception concerning etiology and treatment of these conditions. Recent tendencies in treatment, including prevention, hygiene, serum and vaccine therapy, and convalescent care after first attack. Reports of illustrative cases.

The Value of the Electrocardiogram in the Study of Diseases of the Heart in Childhood (Lantern Demonstration) (15 minutes).

J. Max Lichty, Pittsburgh, *Associate.*

Outline. A study of one hundred electrocardiograms of children under fourteen years of age, with particular relation to diagnosis and prognosis. A report of unusual electrocardiograms and their significance.

Open discussion (10 minutes).

4-4.55 p. m.

Endocrine Disturbances in Childhood.

Fritz B. Talbot, Boston, Mass. (guest).

Thursday, October 4th, 10 a. m.

10-10.55 a. m. Symposium on Measles

Symptomatology of Measles (15 minutes).

Francis T. O'Donnell, Wilkes-Barre, *Associate.*

Outline. Historic review. Susceptibility, immunity, symptoms, complications, typical cases.

Diagnosis and Medical Treatment of Measles (15 minutes).

Harrison B. Kern, Slatington, *Associate.*

Outline. Treatment of complications, morbidity, mortality, with special reference to institutions.

Serum Treatment of Measles (15 minutes).

Daniel E. Berney, Scranton, *Principal.*

Outline. Convalescent serum, parental serum, prophylaxis.

Open discussion (10 minutes).

11-11.55 a. m. Case Reports

(Five minutes each)

1. Unusual Reactions Following Insulin Injections in a Diabetic Child.

C. S. Bauman, Lock Haven.

2. Sarcoma of the Lower Limbs in Dwarfs.
Howard C. McMillan, Aliquippa.

3. A Case of Infantile Spinal Progressive Muscular Atrophy.
Israel Binder, Philadelphia.

4. A Puzzling Case of Purpura in a Boy Nine Months Old.
John Mark Higgins, Sayre.

5. Primary Neoplasm of Lung With Metastasis to Liver in a Two-Year-Old Child.
Norbert D. Gannon, Erie.

6. A Case of Pneumococcic Meningitis with Recovery.
Harvey O. Rohrbach, Allentown.

7. Congenital Hypertrophic Pyloric Stenosis. Two Cases Occurring in Infants of One Mother, Born Within a Period of Twenty-eight Months.
Herbert E. Hall, Uniontown.

8. A Case of Influenza Complicated with Bronchopneumonia and Ruptured Appendix in a Boy Three Years of Age.
Donald R. Jacobs, Waynesburg, Pa.

12 Noon-12.55 p. m.

Our Infant-Feeding Problems.
Roger H. Dennett, New York, N. Y. (guest).

SECTION ON DERMATOLOGY

CENTER ROOM, TOP FLOOR, HOTEL TRAYLOR

Officers of Section

Chairman—Jay F. Schamberg, 1402 Spruce St., Philadelphia.

Secretary—Lester Hollander, Jenkins Building, Pittsburgh.

Executive Committee—Joseph V. Klauder, Philadelphia; Fred D. Weidman, Llanerch; William H. Guy, Pittsburgh.

Stenographer—Miss Mary E. Reik, 1141 Delaware Avenue, Buffalo, N. Y.

(Note—Essayists will please deposit original copies of their papers with the Secretary of the Section when they have finished reading them. The Journal will not accept carbon copies.)

(Note—The ringing of the bell, announcing the beginning, the division, and the conclusion of each 55-minute period, is beyond the control of any officer of the Section. Ample warning of this fact, with frequent reference to time allotted, has been given all who appear on the program.)

Wednesday, October 3d, 2 p. m.

2-2.55 p. m.

Etiology and Symptomatology of Epidermophytosis (15 minutes).
Fred Weidman, Philadelphia, *Principal.*

Outline. Scope and limitations of epidermophytosis. Predisposing causes: moisture, heat, anatomic distribution. Exciting causes: hyphomycetes, blastomyces, etc. The question of commensal and pathogenic organisms in epidermophytosis. The question of generalization. Symptomatology: The intertriginous and the extra-intertriginous forms. Relationship between the morphology of lesions and specificity of organisms therefor. Different primary and secondary types of lesion.

Etiology and Symptomatology of Parapsoriasis (15 minutes).
Stanley Crawford, Pittsburgh, *Associate.*

Outline. A group of rare skin manifestations consisting of dull red, superficial, small, flat, finely-scaling papules involving trunk and extremities, with little or no subjective sensation and peculiarly resistant to treatment. The ill-chosen term signifies remote resemblance, clinically and histologically, to psoriasis, but may suggest other scaling affections, as lichen planus, pityriasis rosea, seborrheic dermatitis, and pityriasis rubra, though it is distinct from any of these. Nothing is known about its etiology, but is presumed to be toxic in origin. The three types composing the group are distinct clinically from one another.

Etiology and Symptomatology of Eczema (15 minutes).
Abraham Fisher, McKeesport, *Associate.*

Outline. Definition of eczema. Old conception of eczema. Modern trend of the conception of eczema. Factor of a predisposed skin. Exciting factors. Constitutional and local symptoms. Primary types. Secondary types. Infantile eczema.

Discussion opened by William H. Guy, Pittsburgh (10 minutes).

3-3.55 p. m.

The Changing Knowledge of Eczema.
William Allen Pusey, Chicago, Ill. (guest).

4-4.55 p. m.

Treatment of Acne (15 minutes).
Herbert G. Wertheimer, Pittsburgh, *Principal.*

Outline. Constitutional treatment. Hygienic measures. Diet. Drugs. Local treatment. Various drugs used. Advantages of powders. Mechanical treatment. X-rays. Actinic-light therapy. Vaccines. Foreign protein.

Treatment of Psoriasis (15 minutes).
Sigmund S. Greenbaum, Philadelphia, *Associate.*

Outline. Introduction. Résumé of theories of causation. Dietary, local, chemical, and physical agents. Types of psoriasis from therapeutic viewpoint. Remedies of determined and undetermined value. Summary.

Treatment of Urticaria (15 minutes).
George J. Busman, Pittsburgh, *Associate.*

Outline. Urticaria is a cutaneous vasomotor reaction of divers causes. The importance of a thorough history; coöperative or group study. Acute versus chronic urticaria. Anaphylaxis, allergy, and personal predisposition; focal infection; endocrine and neurogenic factors; diet. The value of skin-sensitization tests. Reactions to and use of drugs. Prognosis. Illustrative cases.

Discussion opened by Carroll Wright, Philadelphia (10 minutes).

All papers will be illustrated by lantern demonstrations.

SECTION ON UROLOGY

BALLROOM, TOP FLOOR, HOTEL TRAYLOR

Officers of Section

Chairman—Hiram R. Loux, Medical Arts Bldg., Philadelphia.

Secretary—Benjamin A. Thomas, 1900 Spruce St., Philadelphia.

Stenographer—The Master Reporting Company, 37 West 39th St., New York City.

(Note—Essayists will please deposit original copies of their papers with the secretary of the Section when they have finished reading them. The Journal will not accept carbon copies.)

(Note—The ringing of the bell, announcing the beginning, the division, and the conclusion of each 55-minute period, is beyond the control of any officer of the Section. Ample warning of this fact, with frequent reference to time allotted, has been given all who appear on the program.)

Wednesday, October 3d, 2 p. m.

2-4.55 p. m.

Executive Session.

Symposium on Bladder Tumors and Prostatic Cancer

The Differential Pathology of Papilloma, Papillary Carcinoma (So-Called Malignant Papilloma), and Other Types of Vesical Carcinoma (Lantern Demonstration) (15 minutes).

ALBERT E. BOTHE, Philadelphia.

OUTLINE. This paper comprises, first, a classification of the benign and malignant tumors of the bladder; second, a description of the different types of bladder tumors; third, the histologic findings in graded carcinoma; and finally, the incidence of metastasis in bladder tumors.

Precancerous Lesions of the Bladder and Prostate and the Position of the Bladder and Prostate in the Cancer Problem (15 minutes).

ROBERT L. ANDERSON, Pittsburgh.

OUTLINE. Consideration of this subject is justified in view of the surprising frequency of carcinoma of the bladder and prostate. Papilloma, ulcer, circumscribed areas of inflammation or edema, calculi, and foreign bodies must be considered potential precancerous factors. The conditions cause definite urologic symptoms, which should make their early investigation imperative. In the prostate, precancerous factors are recognized in long-standing chronic inflammation and simple hypertrophy. Painless hematuria, an important and often neglected symptom. Obligation of the attending physician to make, or have made, a competent determination of the location and cause of this symptom. The rôle of urology in the cancer problem. Responsibility of urologists to impress the general practitioner with the importance of early investigation of urologic symptoms, also in the education of the public concerning these conditions.

The Symptomatology and Differential Diagnosis of Malignant Growths of the Urinary Bladder and Prostate Gland (Lantern Demonstration) (15 minutes).

JOHN B. LOWNES, Philadelphia.

OUTLINE. Symptomatology of bladder cancer. Cystoscopic examination and interpretation. Merits of biopsy and cystography. Rectal and vaginal examination. Symptomatology of carcinoma of the prostate gland. Cystoscopic examination and rectal palpation.

Discussion (10 minutes).

The Treatment of Bladder Tumors (15 minutes).

WILBUR H. HAINES, Philadelphia.

OUTLINE. History and progress made in the management of bladder tumors. Importance of a definite cystoscopic or clinical classification of vesical growths in prognosis and treatment. Value of biopsy. Fulguration, x-ray therapy, radium, and excision, individually and in combination.

The Treatment of Carcinoma of the Prostate Gland (Lantern Demonstration) (15 minutes).

CARLYLE N. HAINES, Sayre.

OUTLINE. Brief review of recent literature. No standardized method of treatment. Value of many frozen sections over the one-section method to determine the presence of carcinoma. Value of permanent suprapubic drainage in the advanced or inoperable type.

End Results of Treatment of Carcinoma of the Bladder and Prostate (Lantern Demonstration) (15 minutes).

FRANCIS G. HARRISON, Philadelphia.

OUTLINE. Analysis of cases treated by surgery, fulguration, or diathermy, x-ray and radium, either alone or combined, contrasted with no treatment, in regard to relief of symptoms and prolongation of life.

Discussion (10 minutes).

Various Features Connected with Tumors of the Bladder (Lantern Demonstration).

JOHN H. CUNNINGHAM, Boston, Mass. (guest).

OUTLINE. Their histologic variations, clinical manifestations, distribution of metastasis, treatment, and results in benign and malignant types.

Discussion opened by ELMER HESS, Erie (10 minutes).

Thursday, October 4th, 9 a. m.

9-9.55 a. m.

Everyday Genito-urinary Problems (Lantern Demonstration) (15 minutes).

H. C. WINSLOW, Meadville.

OUTLINE. A plea for more complete investigation of signs and symptoms of disease referable to the genito-urinary tract. Importance of thorough and exact history-taking as well as physical examination, especially changes in the urine. Danger of the narrow specialist. Significance of blood in the urine. Utility of and sphere of the cystoscopist.

The Importance of the Early Differential Diagnosis of Genital Ulcerations in the Male (Lantern Demonstration) (15 minutes).

LLOYD B. GREENE, Philadelphia.

OUTLINE. Every genital ulcer in the male of sexual age should be considered a chancre until proved otherwise. Treponema pallidum and its differentiation from other spirochetes. Efficiency of the dark-field microscope. Effect of local treatment of ulcers in making differential diagnosis. Wassermann reaction of blood and serum from gland puncture in the diagnosis of primary syphilis, chancroid, herpes progenitalis, simple balanitis, and balanitis gangrenosa. Problem of the concealed lesion.

Keeping the Patient Dry after Vesical Operations (Lantern Demonstration) (15 minutes).

STIRLING W. MOORHEAD, Philadelphia.

OUTLINE. Postoperative comfort is impossible for patients in the presence of urinary leakage. A variety of forms of apparatus is necessary to meet changing requirements of patients during convalescence, the problem varying with the type of operation, the postoperative period, and the character of the patient (body conformation, sensitiveness of tissues, reparative power, etc.). Discussion of various forms of dressing which have been found useful.

Discussion opened by MAURICE MUSCHAT, Philadelphia (by invitation) (10 minutes).

10-10.55 a. m.

Sacral Anesthesia in Urology (Lantern Demonstration) (15 minutes).

WILLIAM C. BRYANT, Pittsburgh.

OUTLINE. Consideration of the biologic and physiologic principles involved in the phenomenon of regional anesthesia. Anatomic and histologic study of the sacral canal and the structures it contains. Description of the areas which can be anesthetized by sacral anesthesia. Limitation of the method and anatomic reason for the same. Preparation of solutions and technic of injection. Duration and quality of the anesthesia and consideration of principles involved in their production. Causes and prevention of toxic reactions. An unfortunate complication, and recommendation as to its prevention. Causes of failure. Indications for sacral anesthesia.

Observations on Acute Epididymitis Complicating Urethritis (15 minutes).

DAVID S. GRIM, Reading.

OUTLINE. Etiologic and incidental factors. Comparison of results from various methods of treatment. Author's method: rest, elevation, purgation, etc.; intramuscular injections of milk or intravenous injections of sodium iodid; incision and drainage if urgently indicated; resumption of local treatment by irrigations and massage.

Malignant Tumors of the Testicle; Report of Seven Cases (Lantern Demonstration) (15 minutes).

JAMES C. BURT, Pittsburgh, and GLEN H. DAVISON, Pittsburgh.

OUTLINE. Frequency of malignant tumors of the testicle. Trauma as an etiologic factor. Confusion in classification of pathology. Symptoms may be indefinite and diagnosis is often made by exclusion. Metastatic involvement may occur early and be widespread. Prognosis usually grave. Methods of treatment. Report of cases. Conclusions.

Discussion opened by W. Hersey Thomas, Philadelphia (10 minutes).

11-11.55 a. m.

The Value of Preoperative Urography (Lantern Demonstration) (15 minutes).
George L. Armitage, Chester.

Outline. History of development of urography. Technic employed at present. Exhibition of slides showing typical examples of the various lesions of the kidney, bladder, and ureter. Discussion as to value of urography in planning treatment and in rendering a prognosis.

The Utility of Cystoscopy and Pyelography in the Differential Diagnosis of Tumefaction; with Report of Illustrative Cases (Lantern Demonstration) (15 minutes).
W. C. Masonheimer, Allentown.

Outline. Attitude of the general surgeon. Value of establishing diagnosis, operability, and prognosis. Upper-abdominal midline masses; lower-abdominal masses; masses in the flanks. Report of four cases.

Perirenal Suppuration (Lantern Demonstration) (15 minutes). Charles W. Bonney, Philadelphia.

Outline. Relative infrequency; etiology and pathogenesis; differential diagnosis with special reference to the frequency with which mistakes have been made; prognosis and treatment.

Discussion opened by William L. Estes, Jr., Bethlehem (10 minutes).

12-12.55 a. m. Case Reports
(Five minutes each)

1. Diverticulum of the Bladder with Calculus.
Oscar E. Fox, Reading.
2. Traumatic Diverticulum of the Bladder Due to Trocar Stab, Followed by Rupture, Peritonitis, and Death. Exhibition of Specimen.
C. P. Henry, Reading.
3. Unusual Type of Ulcer of the Bladder.
Aaron L. Ruth, Philadelphia.
4. Carcinoma of the Bladder without Recurrence for Two Years.
B. M. Hance, Easton.
5. Encysted Calculus of the Prostatic Urethra (Lantern Demonstration).
S. M. Hankey, Pittsburgh.
6. Crossed Renal Dystopia.
Frederick S. Schofield, Philadelphia.
7. Appendicitis Simulating Right Urinary Pathology.
J. Edward McDowell, Pottsville.
8. Double Pyonephrosis of Seven Years' Duration (Lantern Demonstration).
I. L. Ohlman, Pittsburgh.

HOTELS FOR ALLENTOWN SESSION

Hotel reservations should be made through the Committee on Hotels of the Lehigh County Medical Society. The members of this committee are as follows:

Frederick B. Harding, *Chairman,*
941 Hamilton Street,
Allentown, Pa.

R. W. Bachman	Fred G. Klotz
F. S. Boyer	Paul C. Shoemaker
C. S. Kistler	Thomas L. Smyth

4

The following list of hotels is published for the convenience of those who expect to attend:

Hotel Traylor, Hamilton and Fifteenth Streets, Allentown, is the hotel nearest to the headquarters at the Masonic Temple. For this reason rooms have been reserved here for the officers and guests of the Society. All available rooms have been taken, but we are informed that there are about fifty private homes in this most delightful section of the city to which the Traylor can refer guests. The prices at the Traylor are as follows: Single rooms—tub bath, $2.50 to $4.50; shower, $2.50 to $3; running water, $2 to $3. Double rooms—tub bath, $5.50 to $6; shower $5 to $5.50; running water, $4 to $4.50. Double rooms with twin beds—tub bath $6 to $7; shower, $5.50; running water $4.50. Suites consisting of twin-bed room, double-bed room, outside porch, combination bath and shower—$11. Meals will be served in the roof garden at reasonable prices.

Americus Hotel, Sixth and Hamilton Streets, Allentown, is located ten squares from the headquarters, with ten-minute trolley service. It contains 326 rooms, all equipped with private bath, and all containing either a double or two single beds. About 225 rooms have been allotted to the Medical Society of the State of Pennsylvania during the week of its annual session. Daily room rates have been quoted to us as follows: Room with double bed—single, $4; double, $6. Room with twin beds—single $5 and $6; double $7.50 to $9. The main dining room on the lobby floor is open from 7 a.m. to 8.30 p.m. Club breakfasts are served at 75c, table-d'hôte luncheons at $1, and dinners at $1.50. There is also à-la-carte service. In the Aeroplane Grille, a table-d'hôte luncheon is served from 11.30 a.m. to 2 p.m. at 85c, and dinner from 5.30 to 8.30 p.m. for $1.25. The cafeteria is open from 7 a.m. to 8 p.m. The Central Motoramp Garage is located in the rear of the Hotel.

Hotel Allen, located on the Square, Seventh and Hamilton Streets, Allentown, is noted for the quality of its food. Room prices are as follows: Rooms with bath—single, $3 to $4; double, $5 to $7. Rooms with running water—single, $2 to $2.50; double, $3.50 to $4. Club breakfasts are served in the dining rooms from 35c to 75c. A business-men's luncheon at noon costs 75c, and table-d'hôte dinner is $1.25. There is also à-la-carte service. This hotel is located eight squares from the headquarters, with five-minute trolley service. The garage is located one square from the hotel.

Hotel Lenox, 34 North Eighth Street, Allentown, is located in the center of the business section, half a square from trolley service, and nine squares from the headquarters. There are three good garages within one-and-a-half squares. This hotel does not maintain a dining room, but there are a number of good restaurants near by. The hotel contains 70 rooms, but it will not be possible to secure single reservations during the week of our annual session. The rates on double rooms with running water are $3 to $4; with bath, $5.

Stag Hotel, 627-9 Hamilton Street, Allentown, accepts only men as guests. This hotel has been recently constructed, is strictly modern, thoroughly fireproof, centrally located, with hot and cold running water in every room. All rooms are furnished with twin beds. The rates are $2 for one person in a room and $3 for two persons. Good garage service is obtainable within one square of the hotel. No dining room is maintained. Trolley service every ten minutes.

The following hotels have also been listed by the Hotel Committee, but only directory information on them is available at this writing:

Penn Hotel, 101 North Seventh Street, Allentown—52 rooms, rates averaging $4 per day, American plan.

City Hotel, 28 North Seventh Street, Allentown.

Hotel Columbia, Tenth and Hamilton Streets, Allentown. Rooms quoted at $1 per day European plan.

As Allentown and Bethlehem have so grown together as to make practically one city, the Hotel Committee has also listed

Hotel Bethlehem, Bethlehem. This is a modern fireproof hotel of 200 rooms, only 50 of which have been promised our Society. These rooms all contain twin beds and baths, and the rates are $3.50 per day per person, with not less than two persons in each room. A dining room is operated with à-la-carte and table-d'hôte service as follows: breakfast 75c, lunch $1, and dinner $1.50. A modern coffee room is also at the service of the guests. From the center of Allentown to the center of Bethlehem is only five miles. Through trolley service is operated on a twenty-minute schedule up to noon daily, and a ten-minute schedule from noon to midnight. These cars can be boarded one square from the Hotel Bethlehem and go within one block of the headquarters. The fare is 16c each way, and the running time approximately thirty minutes. There is ample garage service in Bethlehem, and the route by automobile is paved.

As Easton is only one hour by trolley from Allentown, those who are unable to find satisfactory accommodations in the convention city may be interested in the

Hotel Lafayette, Easton. This is a strictly modern hotel, containing 300 rooms, and is described as a most delightful place to stay.

THE SCIENTIFIC AND TECHNICAL EXHIBITS

Dr. William C. Troxell, 941 Hamilton Street, Allentown, Pa., has been appointed chairman of the Committee on Scientific Exhibit. This exhibit will occupy two large rooms in the basement of the Masonic Temple, adjoining the Technical Exhibit and the Registration Bureau. It is the intention of the committee that this exhibit shall be an adjunct to the scientific postgraduate work of the Society. There will be demonstrations along the line of last year's scientific exhibit, some of the sections are planning to hold clinics, and it is hoped that fresh pathologic specimens will be available from the large medical centers of the State. Those who have offerings for this exhibit are requested to communicate at once with Dr. Troxell.

In the Technical Exhibit, but seven spaces remain to be sold. Those who desire to make reservations should communicate at once with the Medical Society of the State of Pennsylvania, 230 State Street, Harrisburg, Pa.

CONVENTION NUMBER OF THE JOURNAL

Look for the Convention Number of the Atlantic Medical Journal on September 10th or soon thereafter. This will contain a full account of the Allentown Session, as well as a number of vitally interesting scientific papers, and the usual quota of other material. The program of social events will be featured, the arrangements will be detailed, the exhibits will be described, and photographs of the points of most interest to those attending the meeting will be published. Don't miss it.

Officers' Department

A. C. MORGAN, M.D., Sc.D., F.A.C.P.
President
2018 Chestnut Street, Philadelphia, Pa.

AN EDUCATIONAL CONTRAST

"That Which Is Morally Wrong Can Never Be Politically Right"

"A true college must be educationally sincere. It will not have one standing of admission in its catalog and practice a lower one in admitting students to its classes." (Dr. Pritchett, Carnegie Foundation for the Advancement of Teaching.)

The above truism can well be applied to the so-called colleges that are running riot in this Commonwealth for the teaching of chiropractic and naturopathy in Philadelphia and Pittsburgh. These cult colleges make specious claims as to their charters and powers to confer degrees in spite of the decision handed down by the Attorney General's Office in the very recent past (See page 416, the Atlantic Medical Journal for March, 1928).

Neither plant betrays the semblance of a college, their catalogs make claims that cannot be substantiated by law or decency, and yet the poor deceived people who are persuaded to enroll as students are led by the delusion and snare that they are going to become "doctors" because of the short courses offered by these groups, whose very acts in promising what seems to be "something for nothing" should make them proper subjects for legal investigation by the Department of Public Instruction and the Department of Justice. The daily papers tell of the people who are convicted of selling bootleg oil, oil stocks, issuing checks under false pretenses, or collecting money or advertisements for magistrate's associations that do not exist.

Contrast the above unpleasant picture with

the members of the medical profession throughout Pennsylvania who are law-abiding, subscribe to rules and regulations in proper manner, and are men and women of probity in their respective communities. The legally licensed physician obeys the law and upholds the cause of right in every particular. He is justified in expressing emphatic dissatisfaction with the loose way in which the laws are executed and the failure to give a square deal to those who are striving to live up to the best understanding of what constitutes good citizenship.

Illegal practitioners and cultists are playing fast and loose in this State by advice of men high in the legal profession whose motives may well be challenged.

LOOKING FORWARD TO ALLENTOWN

Now is the time to plan for the annual session at Allentown October 1st to 4th. Commissions and committees are falling in line and are forwarding their reports to Secretary Donaldson for publication in the September Journal. At the same time the entire membership of the State Society should peruse the Journal with careful thought, as there will be much work of a deeply constructive character to be done by every one who attends the session.

The members of the House of Delegates should weigh very carefully all matters brought to their attention, and there should be free and fair discussion in the county society and councilor district meetings that will be held during the next two months. The delegates should approach all suggestions with an open mind, remembering that as a rule each question has more than one side to it.

We hope that members and their families will plan to be present during the entire four days of the annual meeting, as the programs provided by the Committee on Scientific Work, the Woman's Auxiliary, and many individual friends in Allentown are of such elaborate nature as to make it worth while for each and every one to arrange accordingly.

Let us make this a record-breaking session as regards attendance, enthusiasm, accomplishment of work and in the making of plans for the next fiscal year.

The writer has endeavored to present topics of interest and importance to the membership during the past year by starting a "President's Page" which we hope will appeal to his successors as being worthy of continuation.

Appreciation is hereby expressed of the continued courtesies extended by Editor Hammond with Miss Blair and her efficient corp of workers for their very hearty coöperation during the present fiscal year.

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade Bldg.,
Pittsburgh, Pa.

A COMPARISON

The following state medical societies render service to their members and their public that is worthy of emulation by the Medical Society of the State of Pennsylvania. In order that our readers may have some conception of the cash value placed on membership in these societies and the amount that they expend annually in public service, we publish the following figures.

Society	Number of members	Annual dues	Amount expended annually for public-health legislation and lay education
Minnesota	2,160	$15	$10,000
New Jersey ...	2,329	10	10,500
New York	11,446	10	13,000
Texas	3,694	10	10,000
Illinois	7,415	8	17,500
Indiana	2,785	7	1,250
Pennsylvania ..	7,751	5	(see note)

Note. Prior to 1928 our society's average annual expenditure for all standing committees, exclusive of the Scientific Work Committee, was approximately $650.

Inasmuch as the Medical Society of the State of Pennsylvania has not heretofore entirely neglected public-health legislation and lay education, it is evident that the results accomplished were due to the good work on the part of officers and committeemen without the expenditure of much money. This year's program, however, in public-health legislation and lay education, and the results attained, have justified the expenditure of approximately $7,500 for printing, postage, clerical work, and travel expense. It will no doubt be necessary to spend a similar amount yearly if the work is to be continued successfully. The only way we can obtain this money is by an increase in our annual dues.

ACKNOWLEDGMENT OF CONTRIBUTIONS

We gratefully acknowledge receipt of the following contributions to our Medical Benevolence Fund which have not heretofore been published:

Woman's Auxiliary to Cambria County Medical Society	$100
Woman's Auxiliary to Lycoming County Medical Society	100
Woman's Auxiliary to Erie County Medical Society	65
Woman's Auxiliary to Washington County Medical Society	50
Woman's Auxiliary to Potter County Medical Society	10
	$325

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since June 16. Figures in first column indicate county society numbers; second column State Society numbers:

For 1928

June 16	Blair	105	7570	$5.00
	Delaware	112–113	7571–7572	10.00
	Westmoreland	174–175	7573–7574	10.00
	Butler	55	7575	5.00
18	Northampton	131	7576	5.00
19	Bucks	65	7577	5.00
July 6	Beaver	89	7578	5.00
11	Dauphin	1924 dues 1 member		5.00
	Luzerne	302	7579	5.00
9	Armstrong	54	7580	5.00
	Allegheny	1276–1279		
		1281–1291	7581–7595	75.00
10	Blair	105	7596	5.00
11	Philadelphia	2002–2070	7597–7665	345.00
	Fayette	120–121	7666–7667	10.00
	Blair	106	7668	5.00
	Jefferson	50	7669	5.00
13	Bradford	35–36	7670–7671	5.00
18	Northampton	132–136	7672–7676	25.00

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to July 19:

Allegheny: *New Members*—George W. Dippel, 3513 Penn Ave., Pittsburgh; Donald A. Fusia, 568 Oakmont Ave., Oakmont; George G. Gibson, 718 Wood St., Wilkinsburg; Charles F. Metzgar, 256 Lincoln Ave., Bellevue; Charles E. Piper, Henke Bldg., Oakmont. *Removal*—Joseph T. Belgrade from McKeesport to Riley Law Bldg., Wheeling, W. Va.

Armstrong: *New Member*—Raymond K. Butler, Dayton.

Beaver: *Removal*—George R. Boyd from Beaver Falls to 5800 Ellsworth Ave., Pittsburgh; Maurice H. McCaffrey from Beaver to 11 Emily St., Crafton.

Bradford: *New Members*—Bertha F. Johnson, Granville Summit; Rodney L. Stedge, Sayre.

Clarion: *Removal*—Harry C. Blair from Crabtree to Lilly (Cambria Co.).

Dauphin: *Death*—Ernest C. Weirick, Enola (Univ. of Mich. Med. Sch., '04), recently, aged 52. *Removal*—J. Landis Zimmerman from Hershey to 43 Bowne St., Flushing, N. Y.

Delaware: *Death*—Charles H. Lashelle, Lenni Mills (Jeff. Med. Coll., '87), July 9.

Franklin: *Death*—George M. Robinson, McConnellsburg (Geo. Wash. Univ., '01), July 4, aged 55.

Jefferson: *Removal*—Charles W. Johnston from Dubois to Colver (Cambria Co.).

Luzerne: *Transfer*—Luther S. Luppold, Mt. Penn, to Berks County Society.

Mercer: *Removal*—Ross A. Kelly from McKeesport to 547 S. Oakland St., Sharon.

Montour: *Removal*—Adelbert D. Dye from Danville to Gowanda State Hospital, Helmuth, N. Y.

Montgomery: *Death*—William McKenzie, Conshohocken (Univ. of Penna., '71), June 9, aged 87; S. Nelson Wiley, St. Louis, Mo. (Jeff. Med. Coll., '79), July 6, aged 77.

Northampton: *Transfer*—Michael Fresoli, Bethlehem, from Lehigh County Society.

Northumberland: *Removal*—Julius A. Blasser from Dalmatia to Elizabethtown (Lanc. Co.).

Philadelphia: *New Members*—Philip S. Barba, 222 Harvey St., Gtn., Joseph Hess, 1616 W. Erie Ave., Clarence V. Clemmer, 12th St. and 66th Ave., Oak Lane, Julius Winston, 728 N. 63d St., Wallace Martin, 6642 Torresdale Ave., Glenn S. Everts, 238 S. 39th St., Frank P. Massaniso, 5430 Greene St., Gtn., Luther P. Bowers, 620 N. 10th St., Adam Doras, 4022 Castor Ave., Philadelphia. *Removal*—Kempton P. A. Taylor from Philadelphia to United Fruit Co. Hospital, Quirigua, Guatemala, Central America; Geoffrey C. H. Burns from Wards Island, New York, to County Road and South St., Demarest, N. J.

Somerset: *Removal*—Walter F. Johnston from Shanksville to Boswell.

Susquehanna: *Removal*—Clarington W. Caterson from Sanitaria Springs to 186 Main St., Binghamton, N. Y.; Horace D. Washburn from Susquehanna to 30 Penn Ave., Mansfield, Ohio; George W. Newman from Springville to Montrose.

Tioga: *Death*—Orrin S. Nye, Rutland (Columbus Medical Coll., '81), recently, aged 74. *Removal*—Hughes G. Meaker from Tioga to Mansfield; Inman H. White from Lansdowne to Lloyd.

Venango: *Death*—Earl W. Bolton, Oil City (Jeff. Med. Coll., '97), May 22, aged 56.

Wyoming: *Death*—George M. Kinner, N. Mehoopany (Univ. of Penna., '95), April 24, aged 58.

COMMITTEE ON SCIENTIFIC WORK

O. H. Perry Pepper, M.D., *Chairman*
Philadelphia, Pa.

THE PROGRAM OF THE SECTION ON UROLOGY

The Section on Urology, in its program for the approaching meeting of the State Medical Society, has arranged the most comprehensive, if not the best, symposium on bladder tumors and prostatic cancer that has ever been scheduled in this State for presentation before a scientific assembly of physicians. This symposium will occupy all of Wednesday afternoon, October 3d. Seven well-known essayists will discuss the differential pathology, precancerous lesions, position of the bladder and prostate in the cancer problem, the symptomatology and differential diagnosis, the treatment of bladder tumors and cancer of the prostate, cystoscopically, surgically, and by irradiation, and the end results. These will be generously illustrated by lantern slides. The Section guest, Dr. John H. Cunningham of Boston, one of America's foremost genito-urinary surgeons of international reputation, will present the outstanding paper on various features connected with tumors of the bladder.

Thursday morning, October 4th, will be given over to a diversity of subjects on everyday genito-urinary problems, including care of the patient following bladder operations, the differential diagnosis of genital ulcerations, the treatment of epididymitis and tumors of the testicle,

and sacral anesthesia in urology. One entire period will be devoted to the cystoscopic, pyelographic, and urographic diagnosis of kidney diseases, with due consideration of perirenal suppuration. The program will be completed by the reports of eight unusually interesting and instructive cases.

County Society Reports

CHESTER—JUNE

At the June 19th meeting, the members and their wives and a number of nurses from the Chester County Hospital, West Chester, and of the Coatesville Hospital were the guests of Dr. and Mrs. Amos Gottschall and the Directors of the Poor. Following the business meeting, Dr. S. S. Woody, of the Municipal Hospital, Philadelphia, talked on "Scarlet Fever and the Newer Developments in Treatment." Dr. Paul R. Correll gave a straight-from-the-shoulder talk on the situation with the cults, and stressed the urgent necessity for all to work for the defeat of a bill to come before the Legislature at its next session. Dr. Henry Pleasants was chosen delegate to attend the State Society meeting at Allentown, with Dr. M. Margolis as alternate. Dinner was served following the meeting.

J. A. Perkins, M.D., *Reporter.*

DELAWARE—JUNE

The regular monthly meeting, held on June 14, 1928, was addressed by Dr. George B. Wood, of Philadelphia, his subject being "A Few Thoughts Concerning Tonsillar Pathology and Focal Infection." We know very little about tonsillar structure, but in focal infection the part played by the tonsils has been very important, since attention has been drawn to it. There are two ways of looking upon it. The neurologist and the laryngologist have conservative views, for the reason that neurologists see the various postoperative neurotypes and laryngologists see the postoperative hemorrhages and discomfort, while the pediatrician and internist think of the cardiac and rheumatic affections.

Indications for removal of tonsils are repeated attacks of tonsillitis, quinsy, and chronic rheumatic arthritis. Nobody can say definitely whether the tonsils are solely responsible for the patient's condition, and by inspection alone no one is able to gauge their effect. There is still a great deal of uncertaintity about their function. Germinating centers are found in the follicles, where cells which resemble white blood cells are formed, and for this reason the tonsils are looked upon as lymphopoietic structures.

Inert material placed on the surface of a tonsil passes into the parenchyna of the organ, while foreign material placed in the nose passes out into its crypts. In his own experiments, Dr. Wood found that the tubercle bacillus passed through the ephithelial cells lining the tonsils and then into the crypts, and developed tuberculous lesions in the tonsillar structure. No other nasopharyngeal tissue developed any tuberculous lesions, and when the regional lymph nodes were excised, macerated, and injected into guinea pigs, the animals invariably died of tuberculosis.

In the normal tonsil bacteria are found only under the first layer of epithelial cells, showing that there is some barrier guarding the passage of pathogenic organisms. These organisms, when they do penetrate into tonsillar tissue get into the crypts and pass through in its terminal endings or loop. Experimental evidence shows that organisms pathogenic to the host do pass through the tonsillar epithelium. The reason why all of us are not infected is that the organisms are not strong enough, and why one individual becomes immune and others do not is the mystery of infection and immunity. For this reason the tonsils in some individuals are a great harm, and a good thing in others. Therefore, a mere inspection of the tonsil does not show a biologic phenomenon. The crypts are not a mechanical barrier; they are a biologic barrier. The speaker warned his audience never to be dogmatic in statements concerning the tonsils.

Numerous slides were shown illustrating the embryologic development of the tonsil, the method of bacterial penetration into tonsillar tissue, and the lymphatic distribution in the neck and nasopharynx.

In the discussion, Dr. A. V. Orr mentioned the recent experiments on forced feeding in sinus infections.

Dr. A. L. Usset inquired about methods to determine when the tonsils are the cause in a case of systemic disease. To this, Dr. Wood answered that in a given case of what is almost sure to be a focal infection, and the individual is unable to accomplish what he or she should in life, the removal of the tonsils does no harm, except for the postoperative discomfort, and he would give that patient the benefit of the doubt. Leukocytosis and leukopenia do occur, but he does not place any reliance upon cell counts or bacterial cultures, and even the presence of bacteria in the crypts does not mean a thing. It is the repeated attacks of acute tonsillitis which are to be considered.

Dr. Wood was made an honorary member of the society.

Albin R. Rozploch, M.D., *Reporter.*

LUZERNE—JUNE

A regular meeting was held June 6, 1928, with President M. B. Ahlborn in the chair. The Society by vote protested against the proposed increase of per-capita tax to the State Society. The delegates for the 1928 meeting of the State Society were elected.

Dr. F. H. Cathrall, Scranton, Pa.: Eclampsia.—Cancer and eclampsia are similar in that the etiology and pathology of each are unknown, and in both, the methods of treatment, by their very multiplicity and variation, indicate an unsettled mind as concerns therapy. The different types of toxemia are: preëclamptic toxemia, that of the kidney in pregnancy, and nephritic toxemia.

The treatment of preëclamptics consists of rest in bed, orange juice or lemonade, milk diet for twenty-four hours followed by a low-protein diet, saline catharsis every third or fourth day, and forced water. In extreme cases of preëclamptic toxemia, it is a mistake to induce labor at once, because the operation and the labor throw increased activity on the already overtaxed kidneys. The best method in these cases is to improve the kidney output, not by diuretics but by forcing fluid. This does not add to edema as in straight nephritics, but in pregnant nephritics it increases output. Sometimes daily intravenous injections of 10-per-cent glucose solution benefit the kidneys. With improved kidney output it is safe to induce labor.

The radical treatment of frank eclampsia consists of forcible dilation of the cervix, delivery with high forceps or podalic version, and cesarean section. These

radical procedures are contraindicated. Cesarean section should be resorted to only in cases of primiparas with long undilated cervix, when convulsions persist after a fair trial of conservative treatment, or in elderly primiparas with contracted pelvis.

The basis for most of the modern and rational treatment of eclampsia has had its impetus from Prof. B. Stroganoff, Leningrad, Russia, who published an article about three years ago giving a record of 300 cases of eclampsia with a mortality of 2.6 per cent. Essentially, his method consists of putting the patient in a darkened room with a minimum of noise, under the care of a special nurse, with examination only when necessary and then usually under chloroform. Morphin administered hypodermically under chloroform narcosis, is alternated with chloral hydrate by bowel until the lapse of three hours following admission, after which only chloral is used. Chloral is continued every eight hours for three days if the patient has not yet been delivered and there have been no convulsions for thirty-four hours. Operative intervention is resorted to only when it becomes absolutely necessary for the sake of the child. At Johns Hopkins Hospital a similar routine has been developed, except that no chloroform is used.

A few don'ts are of benefit in handling eclampsia: (1) don't give diuretics, (2) don't give chloroform to try to control convulsions, (3) don't sweat patients with hot packs and vapor screen.

Dr. J. J. Kocyan, Wilkes-Barre: This is probably one of the most dramatic subjects in medicine, one that excites the family, all the attendants, and sometimes the physician. The action of the medical profession was also dramatic, until the mortality ran up to 25 or 30 per cent. A few years ago there was a reversion, and the American obstetricians felt that the radical treatment should be changed. Shortly after that, Stroganoff published his results, and the medical profession was ready for them, so that now the conservative treatment is pretty well established in Europe and this country.

There is one phase not yet established, and that is the work done by the Los Angeles group with magnesium sulphate. Another bit of work done in this country is that of Paul Titus of Pittsburgh. He finds that in pregnancy there is a rather high hyperglycemia. In eclampsia there is a definite distrubance of carbohydrate metabolism. Before eclampsia develops, the blood sugar falls extremely low, and the convulsions are preceded very closely by a low content. It is not alone the low sugar values that are of importance, but the sudden drop in sugar content, as much as 50 to 100 mg. His method of treatment is conservative, and is almost entirely confined to the use of glucose. The treatment by the Los Angeles group with magnesium sulphate is now being used in conjunction with glucose. So there is rounding into shape in this country a method that is almost American: morphin or magnesium sulphate and glucose; and for the restlessness of the nephritic type, chloral hydrate and bromids. It is almost possible to predict the course of the disease with this treatment because of its alterative potency.

Dr. E. L. Meyers, Wilkes-Barre: If we could see our patients at three months or earlier and have them in the hospital, obstetrics would not be the tragedy it is sometimes. In Europe they have a tremendous advantage over Americans in that we are not educated to the hospital.

There are three or four definite signs which indicate the need of prevention. One is a rise in blood pressure. It is not true that eclampsia is the result of kidney trouble. As a rule, albumin is not found in the urine early, but only when the patients are threatened with convulsions. I would not wait for 150 mm. In a woman with a pressure rising from 115 to 130 mm., I would sit up and take notice. Especially when she gains weight too quickly. The toxemia is more likely to affect the liver before it does the kidney.

In Europe they insist that the patient must enter the hospital a month before the child is born. They have a system whereby they can study these patients, and that system is their religion. This is possible with one man at the head of the department saying just what should be done. Some of the don'ts proposed by Dr. Cathrall are permeating the profession. "Don't sweat the patient" appeals to me. "Don't use high forceps" is good because the use of force in the face of shock is bad. Cesarean section is easier on the patient than forceful delivery by version or instruments. Lewis T. Buckman, M.D., *Reporter.*

MONTOUR—MAY-JUNE

At the meeting held at the Danville State Hospital on May 18th, the program was in accord with the recommendation of the Committee on Mental Hygiene of the State Society to the effect that each county society arrange for one mental-hygiene meeting annually or for a clinic at its nearest mental hospital. The physicians of twelve counties of the Hospital district were invited to inspect the grounds, buildings, and scientific equipment, followed by luncheon and a scientific program.

A paper by Dr. Theodore Diller, of Pittsburgh on "Mental Hygiene" reviewed the changes which have taken place in the attitude towards mental illness, the transition in institutions from custodial to scientific treatment agencies, and the relationship of the Danville State Hospital to the mental-hygiene movement. Dr. Horace V. Pike gave a report of a case of hermaphroditism.

Drs. J. Allen Jackson and Ida Ashenhurst presented "A Review of the Gynecologic Findings in a Series of Mental Patients." After a brief reference to the organization of the physical-diagnostic clinic of the Danville State Hospital, they reviewed the literature, as well as the symptoms and methods of examination, and presented findings on 1,000 patients referred to the clinic for examination. The age limit extended from 15 to 95 years, the peak being 40 to 49. The psychoses represented a cross-section of the female population of a mental hospital, with dementia præcox, manic depressive insanity, and mental-defective groups heading the list. Of the 1,000 patients in the series, only 789 were sufficiently coöperative to permit examination. Of these, 366 showed positive pathology. The lesions found were: labial, 12; urethral, 23; perineal lacerations, 209; uterine lesions and displacements, 222.

The conclusion were as follows: (1) 15 per cent of a hospitalized group cannot be examined owing to lack of coöperation. (2) 15 per cent show normal atrophic changes. (3) 40 to 45 per cent show definite pathology. (4) Pelvic lesions bear no special relationship to the psychosis found. (5) The treatment was local, usually meeting the needs, while surgical interference was resorted to only in malignancy, tumors, cysts, prolonged bleeding, and physical discomfort of the patient.

The June meeting was held on the 8th at the Geisinger Memorial Hospital. In commemoration of the opening of the new obstetrical department, this meeting

was devoted entirely to obstetrics. Dr. Kenneth Fowler read a paper on the subject of "Intracranial Hemorrhage of the Newborn." Dr. Fowler emphasized the fact that this complication is not necessarily due to the promiscuous use of forceps, but may result from a long-drawn-out and difficult labor, or from asphyxiation.

Dr. C. E. Ervin discussed the treatment of the dehydrated and acidotic patient, and stressed the value of glucose intravenously in a dose usually of 1,000 c.c. of a 10 per cent solution repeated several times in twenty-four hours, if necessary. The glucose stimulates metabolism. The benefit comes from counteracting dehydration and the introduction of glucose which overcomes acidosis. Acidosis in these patients, as a rule, is due to faulty fat metabolism.

Dr. Foss discussed the question of cesarean section as practiced in this hospital, and showed that the operation is performed in 3.1 per cent of the cases. The usual indications for operation were reviewed.

The guest speaker of the day was Dr. John C. Hirst, 2d, of Philadelphia, substituting for Dr. B. C. Hirst, professor emeritus of obstetrics in the University of Pennsylvania, who had planned to be present but was unable to come. Dr. Hirst reviewed the development of this specialty, and one who has been out of school a few years could not but be deeply impressed by the rapid changes which have occurred during the past decade. There is no doubt that most communities are awakening to the importance of obstetrics. While dealing with this particular part of the subject, Dr. Hirst emphasized the need of physical equipment and a specially trained staff if the maternity patient is to be given the advantage of the latest improvements in modern medicine. The question of sterility was handled briefly and the fact stressed that no woman should be held responsible for sterility until the husband had been proved virile, as about 50 per cent of the cases of sterility in his patients had been due to the husband. Dr. Hirst does not rely on only one negative Rubin test to determine the patency of the fallopian tubes. The prenatal care of the patient was carefully outlined. The remaining portion of the address dealt with the management of complications of pregnancy such as placenta previa, indications for cesarean section and the best type of operation, diagnosis of the cord around the baby's neck before delivery, delivery of the aftercoming head in breech presentations, indications for and against episiotomy, methods of immediate repair, etc. Dr. Hirst was very emphatic on the use of anesthesia to alleviate pain in delivery. He favors Gwathmey rectal analgesia for half or more of his patients. Nitrous oxid is also employed, both with and without the rectal analgesia.

C. E. Ervin, M.D., *Reporter.*

NORTHWESTERN—JULY

On the afternoon of July 12th, representatives from Clarion, Clearfield, Crawford, Erie, Mercer, McKean, Venango, and Warren Counties assembled at Conneaut Lake for the annual meeting of the Northwestern Medical Association. For the most part they were accompanied by their wives. After a dinner at the Hotel Conneaut the physicians were addressed by Dr. Thomas G. Simonton, president-elect of the State Medical Society. Dr. Simonton stressed the situation confronting the State Society this coming fall. He showed the great necessity of backing up the trustees in their efforts against pernicious legislation, and gave the reasons for the increase in dues which is likely to be demanded. He told of some of the efforts of the Allegheny County Society.

Dr. S. J. Waterworth, a member of the Cancer Control Commission, gave a short but very complete résumé of the cancer situation. He described the recent session at Philadelphia, and urged his hearers to make every effort, first, to establish diagnosis; and second, to direct their patients toward expert treatment, whether with surgery or radium, and at least not to leave anything undone which would uncover malignancy. He said that gastric ulcer should always be looked upon as malignant; that hemorrhoids should not be treated without at least an inspection and a rectal examination; and that menorrhagia in a woman past fifty requires investigation. His paper was an urgent plea for more careful and early diagnosis of cancer without unnecessarily alarming the public.

The following officers were elected for the ensuing year: President, A. M. O'Brien, Sharon; vice-president, I. D. Kahle, Knox; secretary-treasurer, M. V. Ball, Warren.

The ladies of the party attended a concert in the music hall of the park. M. V. Ball, M.D., *Secretary.*

WARREN—JUNE

The meeting on June 18th was devoted to addresses by members of three sister professions—press, law, and church. The criticisms made were laudatory rather than otherwise, but at the same time they were helpful. Rev. Stoddard, of the Baptist Church, thinks physicians might take a greater interest in the religious affairs of the community. He does not believe they have any more reasonable grounds for missing church services than any other group of people. The attorney, Mr. Nelson, said he believes that physicians, as a group, are as capable in business matters and in politics as any other class or profession. The editor pleaded for more coöperation from physicians in furnishing news. He believes that the press is coöperating in every possible way with the medical profession in educating the public with regard to scientific medicine, and that it deserves the physician's support.

M. V. Ball, M.D., *Reporter.*

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

Mrs. E. Kirby Lawson, *Editor*
2533 Walnut Street, Harrisburg, Pa.

THE ANNUAL MEETING OF THE WOMAN'S AUXILIARY

The Woman's Auxiliary to the Medical Society of the State of Pennsylvania has become a permanent organization, and the annual meeting is therefore called for October 1st to 4th inclusive, at Allentown, Pa. The meetings are to be held in the Elks Club, and the program promises much interest. A more definite announcement will appear in the September number of the Journal.

Please appoint your full quota of delegates, as well as urging a good representation from your county, to make the fourth annual meeting a real success.

PAULINE M. (MRS. GEORGE H.) ROBINSON,
Corresponding Secretary.

CONTRIBUTIONS FOR SEPTEMBER

As the editor of the department will be in Canada for the month of August, all articles or reports for publication in the September number of the JOURNAL should be sent direct to

THE ATLANTIC MEDICAL JOURNAL
230 State Street
Harrisburg, Pa.

All contributions must be received by the 15th of August.

The September JOURNAL will be the annual Convention Number, and it is hoped to publish a full account of the plans for the annual session. The special attention of those who have the program in charge is called to this announcement.

COUNTY AUXILIARY REPORTS

Allegheny.—At the recent primary election the work done by the members of the Auxiliary left its mark. Even though in every part of the twelfth district, and indeed in every other district, medicine and education did not have a clean-cut victory, the weight of that vote was felt—and that was not defeat but victory. The desire of the people for intelligent legislation will not be ignored when the Legislature is again in session.

Fayette.—The closing meeting of the year was held on May 3d in the Gallatin Room of the White Swan Hotel, Uniontown, with the president, Mrs. A. E. Crow, presiding. The following committees were appointed: *Program,* Mrs. R. H. Jeffrey, chairman, Mrs. G. H. Hess, and Mrs. C. H. LaClair; *Health,* Mrs. W. A. McHugh, chairman, Mrs. G. H. Robinson, and Mrs. C. C. Ryan; *Press,* Mrs. C. F. Smith, chairman, Mrs. R. R. Morrison, and Mrs. R. E. Heath; *Hygeia,* Mrs. E. B. Edie, chairman, Mrs. G. B. Hopwood, and Mrs. J. H. Hazlett; *Membership,* Mrs. C. R. Graham, chairman, Mrs. J. S. Hackney, Mrs. C. W. Conn, Mrs. E. R. Ingraham, and Mrs. D. C. Fosselman; *Party,* Mrs. J. E. Van Gilder, chairman, Mrs. J. V. McAninch, Mrs. W. T. Myers, Mrs. M. H. Cloud, Mrs. G. H. Griffin, Mrs. H. A. Heise, Mrs. R. P. Beatty, and Mrs. D. H. Sangston; *Legislative,* Mrs. H. B. Guiher, chairman, Mrs. D. E. Lowe, and Mrs. L. D. Johnson; *Hospitality,* Mrs. H. J. Bell, chairman, Mrs. R. C. Hough, Mrs. W. P. Patterson, Mrs. C. D. Bierer, Mrs. J. D. Sturgeon, Jr., Mrs. J. G. Hemington, and Mrs. C. W. Adams.

The annual children's outing was held July 24th at the Fireman's Club, Hopwood. Lots of fun was planned for by the party committee. The entertainment consisted of movies, a swimming exhibition by Dr. Herman A. Heise who was dressed as a clown, recitations, music, and a picnic lunch. The members donated their cars for transportation.

Franklin.—On June 19th a meeting was held at the home of Mrs. P. D. Hoover, Waynesboro, with the president, Mrs. F. N. Emmert, in the chair. The members voted to furnish books for the children at the Mont Alto State Sanatorium. Following the business meeting, supper was served and a happy social hour enjoyed.

Lehigh.—The Lehigh County Auxiliary recently sent a check for one hundred dollars to the Medical Benevolence Fund. A concert was sponsored by the Auxiliary to make this possible.

On June 5th a public card party was held, tickets having been distributed to all the members. Everybody participated in the sale, and consequently the party was a splendid success. The arrangements were made by the chairman of the ways and means committee, Mrs. Harold E. Hersh.

On June 19th the members were delightfully entertained at the home of the president, Mrs. William J. Hertz. Plans were made for the annual July luncheon and for a picnic for members and their families in August. Mrs. Robert L. Schaeffer, delegate to the American Medical Association meeting at Minneapolis, gave a detailed report of the sessions. The program was outlined which will be presented for visitors at the State Society meeting to be held in Allentown in October.

The president's entertainment for 1928 was delightful. The program was opened with a costume dialogue by Mildred Deibert and Myra Bury, who were seated on the mantel in Mrs. Hertz's living room. They represented two of the old-time boy-and-girl ornaments which were used in the past to decorate that article of furniture. Isabel Hertz entertained with a piano solo, Homer Nearing's "Love Song," and Miss Edith Davis, anesthetist at the Allentown Hospital, gave a humorous selection, "The Sin of Steve Audaine." Miss Davis is a reader of ability and presented her selection in excellent style. Mrs. Hertz was a charming hostess, and during the tea which followed Mrs. William Hausman and Mrs. Hope M. Ritter poured. The table was lavishly decorted with flowers and lighted tapers. Music was presented by the Æolian String Trio consisting of Ruth Sipple Mellinger, harp; Grace Bilheimer, violin; and Anna Sechrist, 'cello. Fifty members attended.

Lycoming.—At the regular meeting held at the Woman's Club, Williamsport, on June 8th, a report of the card party held in May was given by Mrs. J. Louis Mansuy. The proceeds, one hundred dollars, were voted to the County Medical Society for its permanent-home fund. Dr. Ella N. Ritter was present, and asked the coöperation of the members in regard to a memorial to Dr. Rita Church, late a member of the County Medical Society. Plans were completed for an antique sale to be held in June. It was decided to invite the Auxiliaries of Potter and Clinton Counties to be guests at the meeting on July 13th. This organization recently send one hundred dollars to the Medical Benevolence Fund of the State Medical Society.

Somerset.—This Auxiliary was organized at Somerset on May 15th, with the following officers: president, Mrs. G. F. Speicher, Rockwood; first vice-president, Mrs. Charles I. Shaffer, Ralphton; second vice-president, Mrs. Charles B. Korns, Sipesville; secretary, Mrs. J. Ross Hemminger, Somerset; and treasurer, Mrs. Bruce Lichty, Meyersdale.

Tuberculosis Abstracts

A Review for Physicians

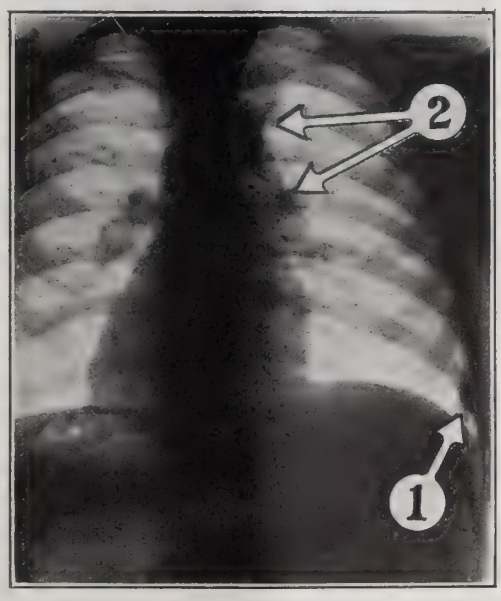
PREPARED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Published through the coöperation of the Pennsylvania Tuberculosis Society and the Medical Society of the State of Pennsylvania

UPON the early diagnosis of tuberculosis depends the hope of cure. The general practitioner, not the specialist, first sees most of the incipient cases. New facts about tuberculosis are being brought to light so rapidly that the practitioner finds it difficult to keep abreast of the subject. Therefore, it is hoped to sift out, by means of this service, those newer ideas which might be of value, together with references that will guide him in pursuing further, particular subjects which may excite his interest.

Tuberculosis in Infants

Asserson studied the histories of 5,659 infants under two years of age in hospitals, clinics, and baby health stations of New York City. The 336 infants in this group who had tuberculosis and whom it was possible to trace for a period of five years, were divided into two groups: (1) those from "contact" families, that is, families where there was a case of active tuberculosis; and (2) those from "noncontact" families. Of the tuberculous infants from contact families, 47% are known to have died of tuberculosis, while of the tuberculous infants from noncontact families only 12% died of tuberculosis. In other words, the chances of a fatal outcome for infants which have tuberculosis in contact families are about four times greater than for those in noncontact families.



X-ray of child's chest, showing primary nodule (1) and caseous lymph nodes (2)
(Courtesy Dr. F. M. McPhedran)

To advocate the removal of infants or young children from their home environment, says Asserson, is contrary to all human sentiment and desire. The appeal should rather be made for the removing of the member of the family whose presence is a serious menace to the life of the baby in its midst.—*"Tuberculosis in Infants."* M. Alice Asserson, *Amer. Rev. of Tuberc.*, October, 1927.

Latent Tuberculosis in Children

Opie defines latent tuberculosis as tuberculosis unaccompanied by significant symptoms or physical signs. It is recognizable by the tuberculin test and by roentgenologic examination and after death by characteristic tuberculous lesions. In many cases it is a trivial infection, but in others it is a source of clinically manifest disease. Within certain limitations, latent infection can be recognized and its intensity measured.

The infection may continue to progress by way of the lymphatics, and later by the blood stream, when general dissemination may lead to tuberculous meningitis and death. In early infancy general dissemination most frequently occurs, but there is more resistance during the second half of the first year. With increasing frequency, as age progresses, tuberculosis is arrested within the nearest lymph nodes, encapsulation occurs, and finally the caseous center of the lesion undergoes calcification. During the period of uncertain balance between extension of the infection and recovery, environmental conditions may decide in one direction or the other. Herein lies the gravity of latent tuberculosis, including as it does, active anatomically progressive lesions with the potentiality of fatal disease on the one hand, and on the other, healing or healed lesions, which have passed the period of danger.

Distinction must be made between tuberculosis of children and of adult life. The outstanding feature of tuberculosis of infancy and early childhood is the spread of the infection from a primary focus in the parenchyma of the lung to adjacent tracheobronchial lymph nodes. There is no evidence that the first infection is at the hilum of the lung. The typical tuberculosis of adults has two outstanding characters; namely, localization and chronicity. It is limited to the lungs, and in many instances never extends below the apex, while the lymph nodes at the hilum are not significantly implicated.

Opie disputes the belief that the apical lesion of adults is derived from the focal lesion of childhood. But the adult type of pulmonary tuberculosis is not uncommon in the second decade of life, in which sense the disease of adults may have its origin in the later period of childhood.—*"Latent Tuberculosis in Children."* Eugene L. Opie, *Amer. Rev. of Tuberc.*, October, 1927.

Childhood and Adult Types of Tuberculosis

Webb, discussing the relationship of tuberculosis to public health, quotes Bushnell's arguments that pulmonary tuberculosis always results from endogenous reinfection (extension of tuberculosis from a previous tuberculous lesion) which is contrary to Opie's conviction that the adult type of pulmonary tuberculosis is exogenous (reinfection from without) in origin. If Opie's position is correct, says Webb, we must accept an idea which is foreign to all our knowledge of parasitology. There is no parasite known to us which needs to attack twice at intervals of ten to twenty years to achieve its life history.—*"Tuberculosis and Its Relation to the Public Health."* Gerald B. Webb, *Journal of the Outdoor Life,* November, 1927.

Nutrition and Childhood Tuberculosis

On the basis of a tuberculosis survey of children of three Philadelphia public schools, Hetherington concludes that there are two means by which the existence of latent tuberculosis in children can be clearly shown: (1) a positive tuberculin reaction (intracutaneous) which indicates infection with tubercle bacilli, and (2) roentgenologic evidence of caseous or calcified nodules of lungs or tracheobronchial lymph nodes. Clinical symptoms, such as those of upper respiratory infection, and physical signs, including D'Espine's sign, fever, and malnutrition, are uncertain guides, unless such evidence is supported and confirmed by positive skin tests and x-ray findings.

Children with latent tuberculosis were studied, particularly with regard to malnutrition. Little if any relationship was found between underweight and latent tuberculous infection or latent tuberculous nodules of the lungs. A small group of cases indicates that latent apical tuberculosis of adolescence in some instances causes moderate loss of weight. Underweight, of itself, has little if any value in the diagnosis of latent tuberculous infection.—*"Malnutrition in Childhood and Tuberculous Infection."* H. W. Hetherington, *Amer. Rev. of Tuberc.*, October, 1927.

Schools for Children with Latent Tuberculosis

Latent tuberculosis in childhood is a serious condition since it is capable of becoming activated. In Minneapolis a special attempt is made to diagnose tuberculosis among school children. Clinically active cases are sent to the sanatorium. Children with the latent type of tuberculosis are sent to the Lymanhurst School for Tuberculous Children, where they are placed on a routine differing radically from that of the regular school child. The child's energy is conserved by supervising his play, by providing periods of rest in bed during the day, and by a long sleep at night. He is kept under close medical and nursing supervision. Remediable defects are corrected. The diet and eating habits are given special attention. A unique feature is that the building is kept at a temperature of approximately 68 degrees, with the proper humidity and circulation of air. Under these conditions children have done as well and perhaps better than during the days when they were exposed to extreme temperatures.

Lymanhurst School for Tuberculous Children
Minneapolis, Minn.

The average length of stay has been twelve and a half months, which is not long enough for the best results, but necessary because of limited capacity. The staff is convinced that a child with latent tuberculosis should be given this special care as long as it remains of school age. The establishment of such schools in all cities is urged because they increase the safety of the children and also because they offer opportunities to increase our knowledge of tuberculosis.—*"The Treatment of Latent Tuberculosis in Childhood."* J. A. Myers, *Amer. Rev. of Tuberc.*, October, 1927.

THE

MEDICAL SOCIETY OF DELAWARE

THE MALARIAL TREATMENT OF GENERAL PARESIS*

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AND
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In considering the subject of the malarial treatment of general paresis, it is essential to understand why any treatment which will tend to cure this disease is of such vital importance. Many treatments have been advocated up to the present time, but none with any marked success. The estimated percentage of the organically diseased population of state hospitals who are afflicted with this malady is over ten per cent. When we consider the cost of keeping these afflicted people in our institutions, nothing more need be said to impress upon the minds of the profession that any measure which will make them self-supporting should be of intense importance.

The treatment of general paresis by the inoculation of blood malaria was introduced into the psychiatric clinic in Vienna early in 1887. However, cure of paresis was reported in 1816 and 1820 by Debuisson and Bouillard before the syphilitic etiology was thought of. Many of these cures were after febrile illnesses or protracted suppuration, in many cases the suppuration being induced. Hypocrates was acquainted with the art of healing of psychosis by febrile diseases, and Galen cited a case of a cure by intermittent quartan fever or malaria. We see, therefore, that the cure of psychosis by high temperature, especially of an intermittent type, has been recognized for many years. In 1887 Wagner von Jauregg suggested malaria as a specific treatment for general paresis. Koch, who discovered that life of paretics was lengthened and remissions were more lasting when tuberculin was used, later decided that the actual production of acute infections was a much more desirable practice, and he therefore inoculated paretics with malaria of the tertian type. Enoch used Koch's tuberculin in tuberculosis-free patients in 1890. Typhoid vaccine was tried, also staphylococci and streptococci, but the remissions in these cases were of short duration. In 1909 sodium nucleinate was used, but it was again decided that intercurrent fever was the best, and the introduction of infectious diseases began with the inoculation of malaria, which has still proved to be the most successful. At the present time, in Europe, hospitals are being established exclusively for the treatment of neurosyphilis by malaria. In this country, however, its adoption is not so universal, although its popularity is increasing of late, and reports show encouraging results. It is interesting to note, in this connection, that it is rumored that in ancient times victims suffering from leishmaniasis of the skin and mucus membrane could be cured if they visited a section of the country abounding with malaria.

Marie and Cohen thought that tuberculin alternating with bismuth should be used in tuberculosis-free patients before a malaria treatment was attempted. If this method failed, malaria should be used in young patients without kidney, heart, or liver affections. However, most authors feel that the deleterious effects of malaria treatment are negligible if proper precautions are taken.

To what cause the cure can be attributed has not been definitely determined. It is known that in the tropics general paresis is practically unknown, and since malaria abounds and syphilis is almost universal in these countries, it seems highly probable that there is some connection between the two diseases.

Statistics show that of 4,134 officers stationed in the tropics having syphilis, 195 developed general paresis. None of these had any history of an acute infection in the early period of the disease. Of 241 patients who had acute infections, none developed syphilis of the brain. Another doctor, contradictory to this, reports that ten civilian patients who had malaria during the secondary period all developed paresis. However, reports seem to point to an antagonistic reaction between the organisms of malaria and syphilis. It has been shown that rabbits with a primary luetic condition, when subjected to re-

* Read by title at the annual meeting of the State Medical Society of Delaware, October 12, 1927. Read at the New Castle County Medical Society meeting, February 21, 1928.

peated hot baths show a definite resolution of the lesion. This has also been tried on human subjects, but it is still in the experimental stage. It has been proved that best results have been secured in patients who showed the most marked temperature rise. It therefore may be possible that the temperature alone may be the cause of the possible cure. The influence of malaria may be exerted through intermittent waves or shocks of high temperature, which seem to be more effective than a continuously high temperature. Also the great impoverishment of blood following the malaria inoculation followed by an active and rapid regeneration process may lead to increased immunity. Other authorities feel that the condition of the blood vessels is so changed that they become more permeable, thus allowing the immune bodies to reach the diseased tissues more readily. It has been shown that the amino-acids increase in the blood after the injection of typhoid vaccine and proteins, which is not true in malaria. On the contrary, amino-acids in the cerebrospinal fluid increase noticeably in malaria, less so in typhoid. There may be some relation between this fact and the influence of malaria on general paresis.

Pathologically it has been shown that there are definite microscopic changes in the brain which frequently parallel the clinical and serologic benefits. This may not be constant. However, there is a tendency to regeneration of the tissues and an attempt to return to normal. Only in a small proportion of cases do the blood and spinal-fluid Wassermann show any change which can be attributed directly to malaria treatment. In paretic patients who had died from intercurrent fever with high temperature, it has been impossible to identify the presence of the spirochete in the brain. Some authorities believe that the quickening of metabolism, with the rapid removal of waste products, has a great deal to do with the cure. On the other hand, there may be a direct antagonism between the plasmodium and spirochete, and the production of a specific antibody by the plasmodium.

The method of treatment is simple. It may be carried out by allowing the malaria-infected mosquito to bite the patient. This, however, is not sure. James has done experimental work which has shown that four out of five mosquitoes die after inoculation before being able to transmit the disease. He has also established the fact that definite temperature and environmental conditions are necessary for the bite of the mosquito to be effective. Of 145 patients inoculated by mosquitoes, 36 failed to acquire the disease.

The most commonly used method is that of the removal of a definite amount of infected blood from a malaria patient and the reinjection of this blood into the paretic patient. The blood may be taken from syphilitic patients. Writers as a rule have noticed no superinfections, in spite of the fact that some authorities believe that the organism causing neurosyphilis is a specific strain.

The asexual form of the tertian type of the plasmodium is the one generally used. The following precautions are frequently used by some hospitals, care being taken that there is no spread of malaria: The patient is kept in complete isolation from the time of inoculation until he has repeated negative smears. The doors and windows are carefully screened, and the patient isolated at points where mosquitoes are less likely to be found. Prophylactic routine use of quinin by all those in contact is helpful. Mosquito breeding places in the vicinity of the hospital are covered with oil, and only a few patients are treated at the time mosquitoes are most prevalent. However, it is being shown that the plasmodium of the asexual tertian type in syphilitic blood does not fulfill its life cycle in the mosquito, and therefore the transmission from syphilitic patients is almost impossible. Antisyphilitic treatment given previous to inoculation exerted very slight effect if any at all. Those who did not receive treatment apparently did better than those who had undergone extensive treatment with mercury and arsenic.

The complications of the treatment are loss of weight, epistaxis, herpes labialis, enlargement of the spleen, nausea, vomiting, rupture of the spleen, jaundice, edema, urine retention, enlargement of the liver, irritability, hallucinations, and delusions. In some cases there is a lighting up of the gastric crises, with appearance of hepatitis. To lessen the mortality in these cases, careful physical examination of the patient should be made before inoculation to discover the weakened and diseased organs. The four most vulnerable spots are the blood, kidneys, lungs, and heart. The fact that the patient has syphilis makes it highly possible that these organs may be complicated to some extent.

Patients suffering from syphilitic mezzo-aortitis suffer no ill effects from malaria treatment. There is a noticeable decrease in blood pressure, and the symptoms of angina pectoris are relieved. A marked secondary anemia and loss of weight is almost always noted after the inoculation. Improvement in physical condition begins a day or so after the cessation of paroxysms when the quinin therapy has been instituted. However, mental improvement has been seen in some cases almost from the first.

If the progressive weakness becomes alarming, physiologic salts and glucose are used by rectum or intravenously. Myocarditis, slight irritation of the kidneys, nonproductive bronchitis, and mild neuritis, usually disappear when the malaria is controlled. However, ten grains of quinin hydrochlorid for intermuscular use should be kept on hand for emergencies.

The incubation period in these induced malaria cases varies according to the method used. It is usually fourteen days when it is transmitted by mosquitoes, seven days by the intravenous route, sixteen days by the intermuscular, and twenty days by the subcutaneous. The incubation period may vary with the number of passages of the parasites through the human body, and also with the adaptation of the parasite to its host.

The course of disease is not that of a typical uncomplicated malaria case. Paroxysms may start with those of the quartan type and finish with those of the tertian. They may be irregular. It is impossible to tell when the malaria will abort, and for this reason it is important to keep several patients on treatment continuously so that it will be possible to obtain the plasmodium if one of the hosts should abort. The giving of boiled milk to start up the paroxysms in these cases has not been very successful. However, they may be activated by giving typhoid vaccine intravenously. When the patient has had possibly ten paroxysms he is put on quinin treatment. Relapse in these cases is due to inadequate administration of quinin. Organisms may be present in the blood without clinical evidence of infection, others may show very mild symptoms, and still others may show very definite clinical symptoms without the demonstration of the plasmodium in the blood. All patients inoculated should have at least three negative smears before they are dismissed from the hospital.

The treatment is usually five grains of quinin sulphate twice a day for a week, followed by a week of rest; the third week a second series of quinin sulphate is given, and the fourth week another rest period. The first three days of the fifth week, five grains of quinin are administered twice daily. Then there is another week of rest, followed by quinin for three days. Other authorities give ten grains of quinin sulphate, and follow this by 6/10 grams of neoarsphenamin on the third day. However, a course of arsenic and mercury following the malaria treatment seems to shorten the remissions to some extent. Therefore, it is preferable not to give arsenic treatments shortly after the malaria.

Reese and Peters noted a rapid decline in the patient's health when this was done, which decline decreased when the intravenous medication was stopped. After six months no deleterous effects were noticed, and at this time there was no danger of provoking unrecognized malaria. One attack of malaria confirms partial immunity to a second infection, and if the case should go on to complete remission, life is prolonged and marked mental and physical improvement result. However, it is not so successful in women as in men. Among men, complete remissions can be expected in from twenty to thirty per cent. Other authorities have reported that as many as fifty-seven per cent have been paroled and are now working at their regular vocations. The best results have been noticed several years after the course of treatment. The improvement may be gradual, starting from two to five days after inoculation. The patient may be considered as having had a complete remission when he has left the hospital and returned to work equally as responsible or more responsible than that in which he was employed before.

The cases to be selected for this treatment vary. Juvenile paretics do not seem to react as favorably as could be expected. Cases of dementia præcox or other psychoses which have a slight history of syphilis, whether it is actually active in the patient or a faint hereditary tinge is present which has been the indirect cause of the psychosis, should be subjects for treatment. Manic and depressive types also seem to react favorably. There has been some success in the treating of other forms of encephalitis besides those that are syphilitic in character.

Donner claims that the earlier the treatment is instituted in the course of the psychosis the greater the possibility of benefit, but older cases should not be excluded. Treatment, however, is contraindicated in very advanced physical weakness. Those showing marked grandiose delusions seem to do well with malaria treatment, as well as those whose physical symptoms are many. Other psychoses where syphilis has affected the endocrine balance of the fetal nervous system or the final myolianezation at puberty, resulting in præcox, tend to show some improvement.

At the Delaware State Hospital, twenty-nine cases have been inoculated with malaria. Twenty-two cases were definitely diagnosed general paresis, with one hundred per cent spinal and blood Wassermann. Unfortunately, at this time we were not doing routine colloidal gold tests. The routine used here is as follows:

Two or three c.c. of the malarial blood is injected intravenously. If the donor is present at the hospital this blood is taken immediately

and injected into the syphilitic patient. If there is no donor at the hospital, citrated blood is used, which is kept at body temperature during the transportation, and this is injected intravenously. In our experience, blood injected directly is more effective than the citrated blood. The patient is then carefully watched and allowed to have thirteen or fourteen paroxysms unless conditions occur which make it necessary to discontinue the treatment. He is then given ten grains of quinin in two doses, and on the third day 6/10 grams of neoarsphenamin intravenously. In our cases we have had no remissions of the malaria. Patients are usually kept in the hospital three months before they are paroled. In the early stage special rooms, well-screened and isolated were used, but for the last year or so the patients have been kept in the general sick ward, coming in contact with other patients, but no one has contracted malaria from those under treatment.

Some of those who have been treated have had no results. This is especially true with the negroes, who probably have some natural immunity, as they have been in the southern part of the country. In these cases we usually reinoculate, at times successfully, in others unsuccessfully. Coly's fluid was used in a few cases without any success.

At this hospital the malaria treatment was started about 1925. After the treatment was finished, Wassermann tests were taken on all patients, and on some, one or two years later. Of these, the blood Wassermann was frequently positive, the spinal fluid negative, and the colloidal gold showed a paretic curve.

At this point I should like to state that all patients received Swift-Ellis as well as other antiluetic treatments before receiving malarial treatment. All treatments were discontinued three months before malaria inoculation.

Of those treated, eleven were improved mentally and physically, six of which were paroled. Five have been out of the hospital two years; one, one year. One patient improved physically only, one mentally. One died, probably directly due to the treatment. Three died from other causes some time after treatment, but had not shown any improvement. Two negro patients showed no improvement, and were given Coly's fluid ineffectively. Three apparently deteriorated more, this possibly being due to the natural deterioration of their paretic condition, rather than the result of malaria treatment. In four, the condition was unimproved.

At the present time there are six colored patients on treatment, only one of whom has reacted normally, while one other has had a few irregular chills. There are two white patients, both of whom are reacting typically. Two patients outside have been inoculated, both of which apparently are reacting as should be expected.

Although in the last few years there have been many treatments for cerebrospinal syphilis instituted with varying success, at the present time it seems that malaria is the one most specific in character and giving a greater percentage of possible cures.

Delaware State Hospital.

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Medical News

Deaths

Orrin S. Nye, M.D., of Rutland; Columbus Medical College, 1881; aged 74; recently.

Reinhart J. Ritz, M.D., of Scranton; Jefferson Medical College, 1893; aged 59; June 27, of heart disease.

Ernest C. Weirick, M.D., of Enola; University of Michigan Medical School, Ann Arbor, 1904; aged 52; recently.

Joseph C. Irwin, M.D., of Pittsburgh; Jefferson Medical College, 1886; aged 66; May 24, of lobar pneumonia.

William McKenzie, M.D., of Conshohocken; University of Pennsylvania School of Medicine, 1871; aged 87; June 9.

Robert Jackson, M.D., of Osceola Mills; Jefferson Medical College, 1896; aged 57; June 24, of gangrenous appendicitis.

S. Naudain Duer, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1890; retired; aged 64; June 22.

Preston Steele, M.D., of Greenville; Cleveland Medical College (Homeopathic), 1893; aged 57; May 16, of nephritis and gall-bladder disease.

George M. Robinson, M.D., of McConnellsburg; George Washington University Medical School, Washington, D. C., 1901; aged 55; July 4.

S. Nelson Wiley, M.D., of St. Louis, Mo.; Jefferson Medical College, 1879; member of the Montgomery County Medical Society; aged 77; July 6.

Mrs. Mahala Holtzapple, wife of Dr. G. E. Holtzapple, of York; president of the Woman's Auxiliary to York County Medical Society; July 3, aged 66.

H. W. Briggs, M.D., of Wilmington, Del.; Albany Medical College, 1894; member of the Delaware Board of Medical Examiners; aged 62; July 10, of heart trouble.

Earle W. Bolton, M. D., of Oil City; Jefferson Medical College, 1897; on the staff of the Oil City Hospital; aged 56; May 22, at the Jefferson Hos-

pital, Philadelphia, of complications following bilateral mastoiditis.

Charles F. W. Plass, M.D., of Philadelphia; Jefferson Medical College, 1886; retired five years ago after a medical career of forty-two years; at one time member of the staffs of the Jefferson and Wills Eye Hospitals; aged 67; July 4.

Robert P. Mercer, M.D., of Ridley Park; Hahnemann Medical College and Hospital, 1861; practitioner of medicine for more than sixty years; former medical director of Crozier Hospital, Chester; member of the American Institute of Homeopathy; aged 91; July 16.

William H. King, M.D., of Philadelphia; Jefferson Medical College, 1894; chief medical advisor, prior to his final illness, of the United States Veterans' Bureau, fourth division; medical director of the Fidelity Mutual Life Insurance Company for eighteen years; aged 61; July 1.

Charles Lashelle, M.D., of Rockdale; Jefferson Medical College, 1887; conducted a drug store and practiced medicine for forty-two years; active in Democratic politics in Delaware County and a friend of the late William Jennings Bryan; aged 74; July 9, from an illness which followed an attack of pneumonia three months previously.

Lucius Duncan Bulkley, M.D., of Englewood, N. J., one of America's most distinguished dermatologists and specialists in the treatment of cancer; founder, with other physicians whose support he enlisted, of the New York Skin and Cancer Hospital in 1882, and of the American Cancer Institute, situated in the Bronx, in 1926; patron of the Bulkley Training School for Nurses, established in his honor in connection with the New York Skin and Cancer Hospital in 1911; died July 20, in his eighty-fourth year. His father, Dr. Henry D. Bulkley, who was the first physician in this country to lecture on diseases of the skin and to establish a dispensary for these diseases was a founder and the first president of the New York Dermatological Society.

Births

To Dr. and Mrs. Henry Pohl, of Johnstown, a son, May 24.

To Dr. and Mrs. W. E. Matthews, of Johnstown, a son, June 15.

To Dr. and Mrs. Harry F. Gockley, of Johnstown, a son, May 28.

To Dr. and Mrs. E. Roland Snader, Jr., of Wynnewood, a son, Edward Roland Snader, 3d, July 3.

Engagements

Miss Dorothy Lorraine Fox. of Philadelphia, and Dr. Luther H. Kline, son of Mrs. Emma Kline, of Cementon.

Dr. Elizabeth Kirk, daughter of Mr. and Mrs. Howard Manning Kirk, of New Castle, and Dr. Edward Rose, of Philadelphia.

Miss Helen Piper, daughter of Dr. and Mrs. Edmund B. Piper, of Philadelphia, and Mr. Henry Brinton Coxe, Jr., also of Philadelphia.

Miss Mary Bancroft Closson, daughter of Mrs. James Harwood Closson and the late Dr. Closson, of Germantown, and Mr. John McMillan Crozier, of Philadelphia.

Marriages

Miss Bella Balink to Dr. Harold Lipshutz, both of Philadelphia, June 24.

Miss Mary Maloney to Dr. Francis DeS. Stokes, both of Philadelphia, June 6.

Miss Grace Vaughn, of Berwick, to Dr. Ralph Shano, of Wilkes-Barre, July 15.

Miss Olive Mann, of Norfolk, Va., to Dr. John A. Sweeney, of Philadelphia, June 30.

Miss Margaret Pennington Jones to Dr. Harlan Fisher Haines, both of Philadelphia, June 24.

Miss Lillian M. Reid, of Camden, N. J., to Dr. Rodney L. Stedge, of Sayre, June 30.

Miss Elizabeth Louise MacMorran, of Athens, to Dr. Thomas H. Meikle, of Troy, June 27.

Miss Bertha Kuhn Wentzel, of Topeka, Kan., to Dr. Winfred J. Wright, of Skippack, June 18.

Miss Mary Frances Russell, of Kirklyn, to Dr. Charles W. Peckworth, of Brookline, June 30.

Miss Jean Black Campbell, daughter of Dr. John A. Campbell, of Williamsport, to Mr. Sidney Davis Milnor, son of the late Dr. Mahlon T. Milnor, of Warrensville, June 21.

Miscellaneous

Dr. William S. Bertolet and son John, of Reading, sailed for the British Isles on June 28.

Dr. and Mrs. George M. Piersol, of Philadelphia, sailed from Quebec, July 11, for Europe.

Dr. Sidney J. Sondheim, of Reading, sailed recently for a cruise through the Mediterranean Sea.

Dr. and Mrs. D. N. Kremer, Philadelphia, sailed July 21 on the *George Washington* for Europe.

Mr. Abram F. Huston has resigned as president of the Board of Managers of the Coatesville Hospital.

Dr. and Mrs. O. G. A. Barker, of Johnstown, have returned from a five-months' tour around the world.

Dr. and Mrs. Ross Hall Skillern and daughters, of Ardmore, sailed July 1 for an extended trip abroad.

Dr. and Mrs. George P. Katzenstein, of Philadelphia, are spending the summer traveling on the Continent.

Dr. A. Frank Ziegenfus, Philadelphia, recently received a broken rib as the result of an automobile accident.

Mr. Edward F. Bracken, Paoli, has been elected president of the Homeopathic Hospital of Chester County.

Joseph Kamenisky, Jr., who was sentenced to die for the murder of Dr. Gerald Kelly, of Jessup, has been executed.

Dr. Martin Barr, physician-in-chief at the Elwyn Training School, who has been seriously ill, is now convalescing.

Following a recent vote providing for a $200,000 bond issue, a new sanatorium will soon be erected in Warren County.

Dr. and Mrs. J. Pierce Roberts, Shenandoah, recently sailed for Liverpool. They expect to spend two months touring Europe.

Dr. Charles L. Youngman, of Williamsport, is taking a three-months' course in surgery at the New York Post-Graduate Hospital.

Dr. and Mrs. Arthur Newlin and their daughter, Miss Janet C. Newlin, of Philadelphia, are spending the summer traveling in Europe.

Dr. Ellen C. Potter, former Pennsylvania Secretary of Welfare, has been appointed superintendent of the New Jersey State Home for Girls.

Dr. and Mrs. G. Oram Ring, of Philadelphia, sailed on the *Leviathan*, July 4, for a motor trip through Spain, France, and Switzerland.

Dr. Frank C. Parker, of Norristown, was recently elected president of the Montgomery Hospital staff. Dr. Herbert A. Bostock was named secretary.

Dr. and Mrs. J. H. Brewster and their daughter, Miss Florence Brewster, of Cynwyd, recently sailed for an extended trip in England and France.

Dr. Ernest T. Williams, of Williamsport, who has been seriously ill with arthritis and sciatica, recently entered Jefferson Hospital, Philadelphia, for treatment.

Two nose, mouth, and throat clinics have been opened at Mount Sinai Hospital, Philadelphia, under the direction of Drs. David N. Husik and Matthew S. Ersner.

Dr. and Mrs. Joseph M. Asher and daughter, of Philadelphia, sailed for Europe, July 21, on the steamer *George Washington,* and will return the latter part of August.

Dr. Eugene L. Opie, of the Henry Phipps Institute, Philadelphia, was elected president of the National Tuberculosis Association at its annual meeting in Portland, Oregon.

Mercer County plans a forty-bed hospital at the county home for care of the poor, provided the contract can be let at a price of not more than $120,000, the estimated cost.

Dr. Herbert B. Carpenter and Miss Anna C. Carpenter, of Philadelphia, sailed the latter part of June for Europe. They will motor through Italy and France, returning in September.

The State Health Department recently reported an epidemic of smallpox in Franklin County. Twenty-five cases were found in Antrim township and one in Greencastle. All were quarantined.

Robert A. Matthews, son of Dr. and Mrs. W. E. Matthews, of Johnstown, was a member of this year's graduating class at Jefferson Medical College. Dr. Matthews will intern at the Philadelphia General Hospital.

Dr. Lena D. Schwatt, connected with the Philadelphia Hospital for Mental Diseases, Byberry, has qualified before the Civil Service Commission for appointment as assistant physician of the Bureau of Hospitals.

Dr. Edward Stieren, of Pittsburgh, was an invited guest of the West Virginia State Medical Society at its recent meeting in Fairmont, W. Va. The subject of his address was "The Management of Intra-ocular Foreign Bodies."

James Taylor, son of Dr. and Mrs. J. Swan Taylor, of Johnstown, was graduated from the medical school of the University of Pennsylvania in June and will serve his internship at the Naval Hospital at League Island.

Elkins Longwell, son of Dr. and Mrs. B. E. Longwell, of Johnstown, was graduated from the Medical School of the University of Pennsylvania in June. Dr. Longwell will intern at the Presbyterian Hospital, Philadelphia.

Dr. George B. Dornblaser, of the State Hospital, Hazleton, has been appointed company surgeon for the Hazleton section of the Hazleton and Mahanoy division of the Lehigh Valley Railroad, succeeding the late Dr. Walter Lathrop.

The Financial Campaign of Mercy Hospital, Philadelphia, has closed with subscriptions of $318,888—nearly fifty per cent more than the announced objective of $220,000. This will enable the Hospital to build a new nurses' home and training school.

Every physician is urged to read the article "Writing the Death Certificate," by Dr. Harold B. Wood, Epidemiologist, Pennsylvania Department of Health, that was published in the *Journal of the American Medical Association,* May 12, 1928.

Dr. Victor F. Thomas, of Evans City, aged 68, was recently convicted of having performed an illegal operation on a Valencia girl, resulting in her death. He was sentenced to serve from two to four years in the Western Penitentiary and to pay a fine of $500 and costs of prosecution.

Dr. James Monroe Thorington and Dr. Max M. Strumia, instructors in the School of Medicine at the University of Pennsylvania, have, for the first time, scaled Mount Scott, one of the loftiest peaks of the Continental Divide between Athabaska Pass and Fortress Lake, Alberta, Canada.

A memorial infirmary for the care of students was formally dedicated at Bucknell University, Lewisburg, June 5. It was presented by Mrs. Ziegler, of Philadelphia, in memory of her late husband, Dr. S. Lewis Ziegler, who was a member of the board of trustees of the University for many years.

A testimonial dinner was held on June 29 by the Clinton County Medical Society in honor of Dr. John M. Dumm, of Mackeyville, who recently completed fifty years in the practice of medicine. He is the fifth member of this county society to achieve this distinction and receive such recognition.

Dr. Everett S. Barr has been appointed executive physician of the graduate hospital of the University of Pennsylvania and will be in executive charge over the clinical work of the hospital after September 1. Dr. Barr has resigned his position as medical director of the Philadelphia Hospital for Mental Diseases.

A complete set of the *Journal A. M. A.* from 1908 to 1928, some volumes well bound, is available for donation to physicians, hospitals, or libraries that may desire them. The owner promises to pack them securely for shipping by express collect. Please communicate with A. C. Morgan, M.D., 2018 Chestnut St., Philadelphia, Pa.

A motorized medical unit of two officers and twenty-two enlisted men was formed from the personnel of the First Medical Regiment at Carlisle Barracks, and proceeded to Fort Leonard Wood, Maryland, by motor to form a part of the Experimental Mechanized Force assembled there early in July. The unit carried the equipment of a battalion dispensary and a dental field unit.

The Trudeau Medal, named in honor of Dr. Edward Livingston Trudeau, and awarded annually by a committee of the foremost tuberculosis authorities in the United States "to that individual who has made the most meritorious contribution on the cause, prevention, or treatment of tuberculosis," has been awarded to Sir Robert W. Philip, president of the British Medical Society.

A class of twenty-eight interns who have completed a two-years' internship at the Philadelphia General Hospital were awarded diplomas at exercises that were held in the auditorium of the new Administration Building on June 25. Drs. David Riesman and E. J. G. Beardsley delivered addresses. This institutes what is planned to be an annual occasion, and is suggested for similar functions in other large hospitals.

Examinations of candidates for commission as Assistant Surgeon in the Regular Corps of the U. S. Public Health Service will be held on November 5, 1928, at the following places: Washington, D. C., Chicago, Ill., New Orleans, La., and San Francisco, Calif. Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

Work was started on June 26 to raze properties on the site of the new $1,000,000 hospital and theater building at Hershey to be erected by the Hershey estates. The structure, which will be six stories high, will have a large auditorium seating 2,000 and a

smaller one to accommodate 600. A gymnasium, swimming pool, and other facilities for residents of the community will be on the first two floors. The third, fourth, and fifth floors will be dormitories, while the hospital will be situated on the top floor.

The Committee on Archives of the Jefferson Medical College and Hospital will appreciate gifts of or information concerning paintings, etchings, drawings, silhouettes, busts, photographs, or cartoons of physicians who have served upon the staff of either the college or the hospital. Etchings, wood cuts, prints, or photographs, or other similar souvenirs of Jefferson College or Hospital buildings will be welcomed. All gifts or information concerning them should be addressed to the Committee on Archives, c/o Chief Resident Physician, Jefferson Medical College Hospital, Philadelphia.

A Tricounty Society meeting representing Dauphin, Lancaster, and Lebanon Counties was held at the Lancaster Country Club on June 20, with an attendance of nearly one hundred doctors and their wives. Dr. S. Gilmore Pontius was chairman of the scientific meeting, and Councilor Hartman acted as toastmaster at the evening dinner. President Morgan discussed public-health legislation. The following officers were elected for one year: president, Dr. Seth A. Light, Lebanon; vice-president, Dr. John Edward Marshall, Lebanon; secretary-treasurer, Dr. Walter Hurst Brubaker, Lebanon.

The American Nurses' Association, at its meeting in Louisville on June 4, voted to erect the right wing of the Florence Nightingale School of Nursing at Bagatelle, a suburb of Bordeaux, France. This school, a memorial to the 291 American nurses who gave their lives during the World War, was built by the nurses of the United States at a cost of $51,000. Due to the increased cost of building material after the war, it was found impossible to finish the building according to the accepted plans, and the school was completed in 1921 with only the main building and left wing erected.

At the invitation of the British Cancer Commission, extended through the American State Department, Dr. George E. Pfahler, of Philadelphia, sailed for England to represent the United States at the International Conference on Cancer held in London by the British Cancer Commission from July 16 to 22. Following this meeting, Dr. Pfahler went to Sweden, having been selected by the American Roentgen Ray Society, the Radiological Society of North America, the American Radium Society, and the American College of Radiology to lead the representation of American radiologists at the International Congress of Radiology which opened on July 23.

The United States Civil Service Commission announces open competitive examinations for the following positions: senior medical officer, medical officer, associate medical officer, assistant medical officer, junior medical officer (intern), dietitian, student dietitian, graduate nurse, graduate nurse (visiting duty), graduate nurse (junior grade), occupational therapy aide, occupational therapy pupil aide, and occupational therapy assistant. The examinations are to fill vacancies in Veterans' Bureau Hospitals, in hospitals of the U. S. Public Health Service, and in various branches of United States service throughout the country. Applications for the above-listed positions must be on file with the Civil Service Commission at Washington, D. C., not later than December 29th. There will also be examinations for senior toxicologist and cytologist, to fill vacancies in the Bureau of Chemistry and Soils, Department of Agriculture, and in the Hygienic Laboratory, U. S. Public Health Service, both for duty at Washington. Applications for these two positions must be on file with the Commission not later than September 5th. Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

The third clinical Congress on Physical Therapy will be held in conjunction with the seventh annual meeting of the American College of Physical Therapy, at the Hotel Stevens, Chicago, October 8 to 13, 1928. The scientific addresses will be presented by leading European and American authorities on the basic and practical phases of physical therapeutics. Symposiums on cancer and tuberculosis, the newest scientific information in these fields, should attract many physicians. Sectional meetings in medicine, surgery, and allied branches, and in eye, ear, nose, throat, and oral surgery will be of interest to specialists in their respective fields, and for those who are new in physical therapy, special instruction classes in the physics and practical application of the various physical agents have been arranged. Dr. Carl Sonne, of the Finsen Medical Light Institute, Copenhagen, Denmark; Cav. Prof. Dr. Donato de Francesco, of Venice, Italy; and Dr. A. R. Friel, of London, England, will expound the results of their personal investigations, while over one hundred leading physicians and teachers from all parts of North America will complete the program.

The technical and scientific exhibits will furnish an array of interesting material. The demonstration clinics, the group conferences, the clinical addresses, the round-table talks, and the hospital clinics make up other parts of the program. No expense has been spared to bring together the best talent available, so that this event should prove an unusual scientific forum for the discussion of diathermy, light galvanism, x-ray, radium, massage, sinusoidalism, therapeutic exercise, etc.

Physicians, their nonmedical assistants and technicians, and hospital executives properly vouched for, are invited to attend all sessions, for which only a nominal registration fee will be charged. Write for program, registration card, and other information now, as early registration by mail is urgently solicited because the instruction classes are limited. Address the American College of Physical Therapy, Suite 820, 30 North Michigan Avenue, Chicago, Illinois.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

A MANUAL OF THE PRACTICE OF MEDICINE. By A. A. Stevens, M.D., Professor of Applied Therapeutics in the University of Pennsylvania. Twelfth edition, revised. 12mo of 657 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, $3.50 net.

This is the twelfth edition of Dr. Stevens's manual, and it brings the work up to date in every respect. It is amazing the amount of information the author has crowded into this one small volume. Although it is written primarily for the student, it will serve the general practitioner equally as well. The great advantage of the work is that all unnecessary data have been eliminated, but all the essential points are well emphasized.

CLINICAL MEDICINE. By Oscar W. Bethea, M.D., Ph.G., Professor of Therapeutics, Tulane Graduate School of Medicine; Professor of Clinical Therapeutics, Tulane School of Medicine, New Orleans, La. W. B. Saunders Company, Philadelphia and London, 1928. 700 pages; price, $7.50.

The author has a worthy thesis and indicates by his writing that he has a practical knowledge of clinical medicine. Unfortunately, the grammatical construction is very harsh, repetitions and padding occur in numerous instances, the spelling is atrocious, and opinions ex-

pressed are so uncertain, as evidenced by the use of "probably," "about," and similar terms, as to cause the readers to question the author's firmness of opinion. "Cases" and "patients" are indiscriminately referred to, several prescriptions are repeated over and over, and the use of proprietary instead of chemical names occurs quite often throughout the book.

We trust that the second edition of this work, which has a worthy object, will show a much-desired and much-needed improvement.

COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION. Edited by Mrs. M. H. Mellish and H. Burton Logie, M.D. Volume xix, 1927, 1,330 pages. Published May, 1928. W. B. Saunders Company, Philadelphia and London.

This latest volume from the Mayo Foundation runs true to form in presenting a well-balanced variety of subjects that should appeal to the surgeon, internist, specialist, and general practitioner. Careful selection of articles published from several hundred papers represents in very readable form the latest thought of the best minds in this country.

The work is well illustrated, the typography of a high order, and a study of this volume constitutes a postgraduate course.

THE EXAMINATION OF PATIENTS. By Nellis B. Foster, M.D., Associate Physician to the New York Hospital; Associate Professor of Medicine at Cornell University College of Medicine. Second edition, revised. Octavo of 392 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, $4.50 net.

This is an excellent handbook for the general practitioner of medicine. The young physician will find it helpful in systematizing his knowledge, while to the older clinician it will suggest many new procedures in arriving at a diagnosis. The last chapter, devoted to certain standard tests, a knowledge of which is essential in present-day practice, is very valuable. The book is written in clear, simple language, and the exceptionally good index adds to its usefulness.

A TEXTBOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Ninth edition, 778 pages, cloth $6. Philadelphia and London: W. B. Saunders Co., 1928.

The first edition of this work appeared in 1908 and contained 557 pages; the present edition contains 778 pages, so that in twenty years the advance of knowledge and the wisdom of author and publisher have resulted in an expansion of 221 pages.

The title has always been somewhat misleading, for the book is as much a medical, veterinary, or sanitary bacteriology as one dealing with general principles, as its name would imply. It also contains a large amount of medical protozoölogy, and some entomology, though the latter is neither so full nor so well proportioned as might be, for there is a good deal about mosquitoes in the chapter upon the "Malarial Parasites," but very little about fleas in that upon plague.

Such books always border upon, and more or less trespass upon, collateral sciences, and it is a nice question how much chemistry, taxonomy, entomology, immunology, sanitation, and botany shall be introduced. In this one, a happy proportion seems to have been achieved.

There are 191 illustrations, of which only twelve are without credits, though several of them appear to have been borrowed from the catalogues and price lists of manufacturers of apparatus. Many of the illustrations are veterans that have seen service in many textbooks and are well-known to the profession, and some of them show decided signs of senile decay.

Illustrations borrowed from original writings upon the subjects they picture may have the advantage of showing exactly what was described; old illustrations may serve their purpose as well as new ones provided they are distinct, but it is certainly disappointing to take up what seems to be a new book, or even the ninth edition of an old book, and in turning over the pages see only the well-known photographs and drawings that figure in all the books upon the same subject.

What has been said of the illustrations, however, does not seem to apply to the text. It seems to have been revised with care and brought up to date. The book is certainly as excellent as the demand for a ninth edition would suggest.

ADDRESSES ON SURGICAL SUBJECTS. By Sir Berkeley Moynihan, Bart., president of the Royal College of Surgeons of England. Octavo of 348 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, $6 net.

This book contains a number of marvelously written addresses on various subjects pertaining to surgery. "Surgical Subjects" includes a wide range, illustrating the remarkable versatility of the author. He also incorporates subjects allied closely to surgery, having an intimate knowledge of chemistry, the history of medicine, and physics.

It is difficult to signalize any one paper, but the one on "Acute Pancreatitis" is a classic. While one cannot agree with all the points brought out, the differences in observation are so minor as to be negligible. other addresses deserving special mention are the "Murphy Oration," "Lister As a Surgeon," "Perforation of Gastric and Duodenal Ulcer," and "The Gall Bladder and Its Infections." One must, however, read all the papers on account of their fund of knowledge, the pure English, the terse and inimitable way Moynihan has of expressing himself.

PRINCIPLES AND PRACTICE OF OBSTETRICS. By Jospeh B. DeLee, A.M., M.D. Professor of Obstetrics, Northwestern University Medical School. Fifth edition, thoroughly revised. Large octavo of 1,140 pages, with 1,128 illustrations, 201 in colors. Philadelphia and London: W. B. Saunders Company, 1928. Cloth, $12 net.

Criticism of this edition as a complete work, or any part of it, is almost impossible. It stands in a class by itself. There is no other comparable in the English language. It is still too large, too detailed, too complete, to make an ideal textbook for the student. But these very faults become virtues when it is considered as a work of reference for the practitioner's library.

Its very merit makes it imperative that every teacher and every practitioner of obstetrics should have this work in his library. But this does not mean that he must purchase every new edition. While the fifth edition faithfully records all the advances in obstetrics worthy of a place in such a work made since the advent of the first edition, probably not more than 100 of the almost 1,200 pages have been entirely rewritten. A studious comparison of the first and fifth editions of this work gives one a striking lesson in what makes a book valuable, and certainly emphasizes the worth of the good magazine. The rewriting of 100 pages gives us what has been accomplished in this particular field in the last fourteen years.

Only those things of proven value must appear in a truly scientific book. A sentence puts Potter's version in its place; a paragraph disposes of Kielland's forceps; a page covers specific treatment of puerperal infection, including mercurochrome, serums, etc.—cold, sane, judicious statements of our present knowledge of these problems. On these very subjects our magazines have published volumes, little wheat, much chaff, but inspiring, full of hope, inciting each investigator to verify or surpass.

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The Seventy-Eighth Annual Session

An organization which has survived to hold its seventy-eighth annual session obviously has met the needs of its members; but when that organization has grown consistently year after year, until it embraces most of those eligible to membership, this is proof that it is in tune with the advancing spirit of the age. It is proof, too, that it has the interest and support of its membership. Once again the truth of this statement will be demonstrated by the attendance at the meeting of the Medical Society of the State of Pennsylvania to be held at Allentown from October 1st to 4th, 1928.

Headquarters: The Masonic Temple, Linden and Fulton Streets.

For a year past the officers and committees have been planning and working with the purpose of making this the best meeting the Society has ever held. The members of the Committee on Scientific Work have combed the State for speakers who could most ably present an effective series of postgraduate lectures and demonstrations. Some of the most eminent members of the profession from other states have been invited to discuss their original researches and methods of applying them. There will be something of interest to all physicians, from the newest graduate to the most learned. Not only will the general practitioner be represented, but practically all the specialties as well. The discussions will be open to all members, and every one will have an opportunity to contribute something to enrich the proceedings. The program was published in full in the ATLANTIC MEDICAL JOURNAL for August, and interested readers are referred to it for further details.

Photographs by M. Frantz

West Park, looking from the Masonic Temple.

Hotel Traylor, Fifteenth and Hamilton Streets, where the Sections on Dermatology and Urology will meet and the officers and guest speakers will be entertained.

The Medical Society of the State of Pennsylvania has the reputation of giving one of the best programs presented in the United States, and Allentown will be a good place for the live wires of Pennsylvania who want to keep in touch with modern medicine. Once again the program has been divided into periods of one hour each, with ample time for discussion at the end of the period. This has proved very satisfactory during the past several years, and will probably be preserved as a permanent feature of the program.

The headquarters for the meeting will be established at the new Masonic Temple, a million-dollar structure located at Linden and Fulton Streets. The Registration Bureau will be located in the basement in the large banquet hall of the Temple, on a balcony overlooking the floor of the Technical Exhibit. This exhibit, if anything, will be of more interest in 1928 than usual. Eighty-four spaces have been plotted and sold to the last one. Most of the old exhibitors will be there, and a number of new ones have reserved space. Back of the Registration Bureau are the rooms devoted to the Scientific Exhibit. Here there will be shown not only the usual exhibit of specimens, photographs, x-ray plates, etc., but also clinics will be held, with demonstrations of living pathology. A visit to the meeting will not be complete without a survey of these exhibits. And of course the Registration Bureau will be the Mecca for all newcomers. On this floor, also, there will be representatives of the State Department of Health, whose purpose in attending will be to make contacts with the Pennsylvania physicians which will facilitate the coöperation between them and the Department. Space beside the elevators has been reserved, too, for the Committee on Public Health Legislation of the State Society and the Joint Conference Committee, where those who are interested in the legislative situation can confer with the members of these most important committees.

A Registration Bureau for the Woman's Auxiliary will be located in the foyer on the first floor of the Temple, as well as the Information and Hotel Bureau maintained by the Lehigh County Medical Society for the benefit of visitors who are unfamiliar with the city, under the direction of the Assistant Secretary of the Chamber of Commerce. Those who are unwise enough to come without hotel reservations will find this Bureau a friend in need.

The opening meeting of the session will be the Board of Trustees at 10 a. m. Monday, October 1st, in the small parlor on the first floor of the Masonic Temple, to the right of the entrance.

At 3 p. m., Monday, the House of Delegates will convene in the Consistory on the first floor of the Masonic Temple. All the meetings of the House of Delegates will be held in this beautiful room. Interesting discussions are forcast for this session.

The opening General Meeting of this session will take place in the Auditorium on the first floor of the Allentown High School, 106 North

Seventeenth Street. At this meeting the incoming president will present his address, embodying his recommendations for the coming year's work. All General Meetings will be held in this room, which is only a short distance from the headquarters at the Masonic Temple. Here also the Section on Medicine will convene.

The Section on Surgery will occupy the Consistory of the Masonic Temple; the Section on Pediatrics will meet in the Parlor on the first floor of the Masonic Temple; for the Section on Eye, Ear, Nose, and Throat Diseases the Auditorium on the first floor of the Nurses' College of Allentown Hospital, Seventeenth and Chew Streets, has been engaged; and reservations have been made for the Section on Dermatology and the Section on Urology on the top floor of the Hotel Traylor, Fifteenth and Hamilton Streets. All these meeting places are within a radius of three squares, located in the most delightful section of Allentown, and with the favorable weather that usually prevails during the first week of October, the arrangements should prove very satisfactory.

Ample provision has been made for meals in the immediate neighborhood of the convention. Lunch will be served by a first-class caterer at the rear of the Technical Exhibit in the basement of the Masonic Temple. The cafeteria in the basement of the High School will be open between morning and afternoon sessions. Meals will also be served in the Hotel Traylor, so that every one should be properly cared for at a reasonable price within the noon hour. For those who prefer to make the trip of approximately three quarters of a mile down town, there is excellent trolley service.

An innovation is provided this year in the shape of a scientific meeting of rather popular type on Tuesday evening instead of the usual smoker. Attractive music will be provided by the Lehigh County Society, and the State Society has secured well-known medical speakers. This meeting and the public meeting will both be held in the Auditorium of the High School.

Immediately following the public meeting, the President's Reception will be held in Mealey's Auditorium, 423 Hamilton Street. This is a delightful ballroom, with the reputation of having the best dance floor in the State. There are other places which may challenge this claim, but undoubtedly Mealey's is a beautiful place for our President's Ball.

The Woman's Auxiliary and the women guests at the meeting will have their headquarters at the Elks Club. Quite an elaborate program has been prepared for their entertainment, and those who are interested are referred to the Woman's Auxiliary Department published elsewhere in this Journal.

The scientific sessions are the brain of the meeting, the exhibits its purse, but the social contacts are its heart. Here you will greet the friends of former years and make new acquaintances who will speedily become old friends. There is something about the atmosphere of the Pennsylvania meetings which induces comradeship—a cordiality and fellowship which "makes"

The new million-and-a-half-dollar Allentown High School, North Seventeenth Street between Linden and Turner, where the General Meetings, Section on Medicine, Tuesday-evening meeting, and public meeting will be held.

the meeting for so many of us. Those of you who have not attended before—come and try it!

THE GUEST SPEAKERS

On the scientific program, naturally, the greatest interest attaches to the guest speakers. Who are they and what have they done? These are the questions which come to the minds of their audiences. By way of introduction, therefore, we are presenting the following short biographical sketches.

The Nurses' Home of the Allentown Hospital, Seventeenth and Chew Streets. In its auditorium the Section on Eye, Ear, Nose, and Throat Diseases will meet.

General Session

Dr. George Gray Ward, New York City, holds a position in American gynecology and obstetrics so preëminent as to guarantee the interest and authoritativeness of his address. Dr. Ward was graduated from the Long Island College Hospital and then took postgraduate studies in London, Paris, and Berlin. He served in the Spanish-American War, and in 1918 became chief surgeon of the Woman's Hospital, New York City. He holds the position of professor of obstetrics and gynecology of Cornell University Medical College, and has been honored by a great number of consulting positions in New York. He is an ex-president of the American Gynecological Society, and ex-chairman of the Section on Obstetrics and Gynecology of the American Medical Association, as well as being one of the founders of the American College of Surgeons. No one is better fitted to present the type of address desired for our meeting. His title will be "The Treatment of Pelvic Infections."

Tuesday Evening Meeting

Dr. James J. Walsh, New York City, was born in Archbald, Pa., April 12, 1865. He was educated in the parochial schools and at St. John's College, New York City, now Fordham University. He was graduated in medicine from the University of Pennsylvania in 1895. He spent nearly three years in Europe, over a year of that time in Virchow's laboratory, and then settled in New York to practice. He was adjunct professor of medicine in the New York Polyclinic School for Graduates in Medicine, and then dean and professor of nervous diseases and the history of medicine at the Fordham University Medical School. He is professor of physiological psychology at the Cathedral College and Medical Director of the Fordham University School of Sociology. He has written a series of books on the history of medicine, "Makers of Modern Medicine," "Old-Time Makers of Medicine," and another series on the maintenance of health by natural means through will power, eating, laughter, etc. His volume on "Cures," which treats of the cures that have failed, has had a wide popular circulation as well as among physicians. Above all, his abilities as an entertaining speaker have endeared him to thousands of medical men throughout the country. Those who have heard him speak before will want to hear him again; those who have not, will not want to miss him.

T. Wingate Todd, M.B., Ch.B. (Manc.), F.R.C.S. (Eng.), is the Henry Willson Payne Professor of Anatomy at Western Reserve University. He was born in England and received his early training in that country, coming to the United States, however, in 1908. His interests have been varied, as a glance at the 133 items composing his bibliography reveals, and many of them are of the utmost scientific importance. Professor Todd represents that rare combination — a man of proved scientific ability and a delightful and entertaining speaker, possessing in addition a deep and at the same time a humorous understanding of human nature. The Society will count itself fortunate to have heard him.

Section on Medicine

Dr. Henry A. Christian, Boston, Mass., is one of the outstanding figures in American medicine, a physi-

The Americus Hotel, Sixth and Hamilton Streets, Allentown's newest hotel.

cian of the highest scientific attainments, a humanist, and a personality "benign and shrewd." He is professor of theory and practice of physic in the Medical School of Harvard University, physician-in-chief to the Peter Bent Brigham Hospital, a member of the Association of American Physicians, the American Society for Clinical Investigation, the American Association of Pathologists and Bacteriologists, and the American Society for Experimental Pathology. He has made many valuable contributions to medical literature and is the American editor of "Oxford Medicine." Pennsylvania physicians are to be congratulated upon having the opportunity to hear Dr. Christian discuss one of the important aspects of the goiter problem.

Dr. Roy Wesley Scott, Cleveland, Ohio, professor of medicine in the School of Medicine of Western Reserve University, and assistant head of the Department of Medicine of the City Hospital, Cleveland, received his A.B. degree from Indiana University in 1910, his M.D. from Western Reserve University three years later, and his M.A. in 1917. He became demonstrator of medicine at Western Reserve in 1914, and was raised to the rank of instructor in physiology the following year, associate in physiology in 1917-18, instructor in medicine the next year, senior instructor in 1920, assistant professor in 1922, associate professor in 1925, and during the past winter he was made professor of medicine. He is a member of the American Society for Clinical Investigation and a frequent contributor to the literature on internal medicine. Dr. Scott is one of the most prominent internists in the Middle West. The members of the Inter-State Medical Conference and the fellows of the American College of Physicians remember with a great deal of pleasure the clinics he held in Cleveland during the fall of 1926 and the spring of 1927. His discussion on lues of the heart and coronary-artery disease, correlating the clinical course with the pathologic conditions, held the attention and aroused the enthusiasm of all who heard him. He is a delightful speaker and entertainer, and anything he may offer will be well worth hearing.

Section on Surgery

Dr. Dallas B. Phemister, Chicago, Ill., is professor of surgery in the University of Chicago and director of the surgical department of the new Billings Hospital, which is designed to provide for the teaching of undergraduates in medicine, formerly and still partially conducted in the Presbyterian Hospital of Chicago as a department of Rush Medical College. Provision is made in the new hospital not only for the care of surgical cases and the teaching of clinical surgery, but also for the prosecution of research in surgery and cognate scientific subjects. The arrangement is such that the closest possible physical contact is maintained between science and art. Dr. Phemister has made notable contributions to the pathology and treatment of diseases of the bones and joints. His paper on this subject is sure to be illuminating and of practical value.

Dr. Harvey B. Stone, Baltimore, Md., formerly adjunct professor of surgery in the University of Virginia, is now associate in clinical surgery in the Johns Hopkins Medical School. He is also visiting surgeon to the Johns Hopkins Hospital, the Union Memorial Hospital, and other hospitals of Baltimore. Dr. Stone has devoted special attention to diseases of the rectum and colon. His early experimental work on intestinal obstruction and more recent experimental and clinical contributions on the substitution of ileum to replace defects in the colon have attracted attention. His interest and experience in diseases of the colon guarantee an instructive consideration of the important and poorly understood subject of chronic colitis.

Hotel Allen, located on the Square—and dealings all on the square. Allentown's oldest hotel, Mecca for Rotarians, Lions, Kiwanians, Square Clubs, etc.

Sacred Heart Hospital, Fourth and Chew Streets, where a number of clinics will be held.

Section on Eye, Ear, Nose, and Throat Diseases

Dr. John Edmund MacKenty, New York City, professor of rhinolaryngology in the Manhattan Eye, Ear, and Throat Hospital and Medical School and senior surgeon to the Manhattan Eye, Ear, and Throat Hospital, was graduated from McGill University in 1892. He is a member of the American Laryngological Association, the American Laryngological, Rhinological, and Otological Society, the American Otological Society, etc., and is well known personally by many of our members and by practically every rhinolaryngologist from his many contributions to medicine in his specialty. The subject of his paper will be "Diagnosis and Treatment of Laryngeal Malignancy, with Special Reference to Total Laryngectomy and the Use of the Mechanical Larynx."

Dr. Harry Friedenwald, Baltimore, Md., professor of ophthalmology and otology at the University of Maryland, is equally well known and has contributed largely to recent literature on eye conditions. He was graduated from the College of Physicians and Surgeons, Baltimore, in 1886, and took postgraduate work at the Universities of Berlin and Vienna. He is a fellow of the American College of Surgeons and a member of the American Ophthalmological Society, the American Otological Society, and the Ophthalmological Society of Germany. His paper on "Globular Masses on the Papillary Margin in Acute Circumscribed Chorioretinitis" is well recognized, as is his later contribution, "Posterior Sclerotomy for Glaucoma." The subject he will present at this meeting will be "The Relation Between Ophthalmology and General Medicine."

Section on Pediatrics

Dr. Fritz B. Talbot, Boston, Mass., is clinical professor of pediatrics at Harvard University and chief of the Children's Medical Department at the Massachusetts General Hospital. With Dr. Francis G. Benedict, Dr. Talbot is author of "The Gaseous Metabolism of Infants," Carnegie Institute of Washington publication No. 201, "Metabolism and Growth from Birth to Puberty," Carnegie Institute of Washington publication No. 302, and "The Internal Secretory System and Metabolism in Infancy and Childhood." Very little is really known about endocrine disturbances in children, and certainly it will be worth any physician's time to hear such an authority as Dr. Talbot speak on this important subject.

Dr. Roger Dennett, New York City, is professor of diseases of children and director of the department in the New York Post-Graduate Medical School, attending physician in the babies' wards of the New York Post-Graduate Hospital, consulting pediatrician to the Victory Memorial Hospital, Brooklyn, the Passaic General Hospital, the New York Episcopal Orphans' Home and Asylum, etc., fellow of the New York Academy of Medicine, consulting physician to Willard Parker Hospital, and consulting pediatrician to the Hackensack Hospital. There is probably no more popular book on the subject than "Simplified Infant Feeding" by Dr. Dennett. It is necessary only to read this book to know that he is a practical man, and the hundreds of physicians throughout the United States who have attended his lectures at the New York Post-Graduate Hospital can testify to his genuine worth. So often a well-informed pediatrician after talking on infant feeding leaves only a hazy idea of what he tried to convey. Dr. Dennett should have an attendance that will tax the capacity of the auditorium allotted to the Pediatric Section.

Section on Dermatology

Dr. William Allen Pusey, Chicago, Ill., has been an outstanding figure in American medicine and in the specialty of dermatology since 1894. He needs no introduction to the members of the Medical Society of the State of Pennsylvania, for all know him as the president of the American Medical Association in 1924-25. He was similarly honored by the American Dermatological Association in 1910, the Chicago Dermatological Society in 1905-06 and 1917-18, and the Chicago Medical Society in 1918-19. During 1917-18 he was chairman of a committee on venereal diseases of the Surgeon General's office, U. S. A. Dr. Pusey last attended the session of our Society in 1924 at Reading, his address at that time on "The Present Situation in the Treatment of Syphilis" being remembered for its

interest and literary style. His literary contributions have been so extensive that only his books can be mentioned: "The Principles and Practice of Dermatology," "The Roentgen Ray in Therapeutics and Diagnosis," "Syphilis as a Medical Problem," and "The Wilderness Road to Kentucky." He is a pioneer in x-ray and crymotherapy. His interest in medical education since 1894, when he became professor of dermatology at the University of Illinois, has been continuous. Under his leadership as editor, the "Archives of Dermatology and Syphilology" has become the foremost publication of its class. Space does not permit covering more of his activities, which are legion.

Section on Urology

Dr. John H. Cunningham, Boston, Mass., was graduated from the Harvard Medical School in 1902. He is, today, an outstanding leader in American urology. He is a fellow of the American College of Surgeons, the Association of Genito-urinary Surgeons, and the American Urological Association. He holds the position of associate in genito-urinary surgery in the Harvard Graduate School of Medicine, is surgeon to the Long Island Hospital, Boston, and consulting surgeon to the Brocton, Plymouth, Chelsea, Melrose, Malden, and Lynn Hospitals. As co-author of "Diseases and Surgery of the Genito-urinary System," Dr. Cunningham ranks among the leading authorities in his specialty. During the War he served as civilian advisor to the Surgeon General relative to genito-urinary diseases, and had much to do with the standardization of venereal prophylaxis and treatment. He was also co-author of the "Hand Book on Venereology" issued by the Government.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit will occupy two rooms in the basement of the Masonic Temple, Allentown, adjoining the Techincal Exhibit and Registration Bureau. The Committee on Scientific Exhibit is making every effort to present demonstrations and displays which will further the essential features of scientific work for the benefit of the physicians who attend the sessions with the idea of seeing and learning things of practical value to be used in the practice of their art.

Program of the Exhibit

Allergic Clinic of the Presbyterian Hospital, Philadelphia.—By means of charts, the method of approaching allergic cases will be shown from the clinician's point of view. It will be demonstrated that a thorough survey must be made of each individual case, since in many instances in which a diagnosis has been made of asthma or protein sensitization, there is partial mechanical obstruction of the upper air passages, congestive heart failure, or renal disease. Cases of allergy will be divided into the following groups: pollen cases, spring and fall; perennial cases with a pollen base; animal-emanation cases caused by horse hair, dog hair, goose feathers, etc.; food-sensitive cases; cases of essential or reflex bronchial asthma, where the patient has become sensitized to his own bronchial or sinus secretions. The charts will show the incidence of pollenation, with reference to the intensity of pollenation and the effect of wind and moisture. Other charts will show the effectiveness of treatment in pollen, animal, food, and essential-bronchial-asthma cases. Mounted specimens of common grasses and

Allentown Hospital, Seventeenth and Chew Streets, where additional clinics will be held.

flowers responsible for production of hay fever and their pollen will be exhibited. There will be a display of several methods of preparing pollen extracts, and control tests to show the effectiveness of each. The technic of testing patients, interpretation of results, mixing of pollen extracts to suit the individual case, and schedule of injections will be shown. There will be similar demonstrations of the animal and food cases. The routine of handling patients with essential

Hamilton Street looking west from the center of the Square. The skyscraper of the Pennsylvania Power and Light Company in the background is the largest building in the city, containing twenty-six stories.

bronchial asthma will be shown. There will be presented in detail methods of preparation of secretion filtrates, soluble toxins, and autogenous bacterins, with special reference to selection of the bacteria to be used in the case in question; also methods of testing the patient with these preparations, interpretation of the tests, and outline of treatment. The use of mechano- and heliotherapeutic methods and drug therapy in allergic cases will be demonstrated. Personal demonstrations will be given twice a day (time to be announced) by Drs. John Eiman and H. B. Wilmer, assisted by Drs. Whitcomb, Murphy, and Dodoes.

Pennsylvania Department of Health.—Charts will be exhibited indicating the progress made during the past twenty-one years in State health work. A reception room will be maintained where the staff of the Department will be happy to meet the members of the State Society in the hope that a better acquaintance will help to establish closer coöperation between the Department and the profession. A stenographer will also be at the service of visiting physicians.

Medical and Surgical Moving Pictures.—Presented by the Eastman Kodak Company, Rochester, N. Y.

Philadelphia Heart Association.—Clinics will be held twice daily by members of the Association, illustrating electrocardiography and other interesting cardiac features.

Section on Dermatology.—A dermatologic clinic will be held Wednesday morning, October 3d.

The Use of Breast Prints in the Diagnosis of Lesions of the Breast.—This demonstration will be presented by Drs. John O. Bower and Jefferson H. Clark, of the Surgical and Pathological Department of the Temple University School of Medicine.

Occupational Therapy.—The Allentown State Hospital will present by invitation an exhibit on occupational therapy under the direction of Dr. H. I. Klopp, Superintendent of the Hospital.

Air Infiltration of the Colon for X-Ray Diagnosis of Early Tuberculosis and Cancer.—A display of x-ray films illustrating this subject will be made by Dr. J. Gershon-Cohen, Graduate School of Medicine, University of Pennsylvania, Philadelphia.

Clinical Pathologic Exhibit.—Fresh pathologic material and bacteriologic tests will be demonstrated by pathologists of the Allentown and Sacred Heart Hospitals—Drs. J. J. Wenner and Millstead.

X-Ray Exhibit.—Films made of individuals employed in the various local cement plants will be presented by Dr. C. A. Haff, of Northampton, Pa.

Dr. William C. Troxell, 941 Hamilton Street, Allentown, is the chairman of the Scientific Exhibit.

THE TECHNICAL EXHIBIT

In a previous article the Technical Exhibit was referred to as the "purse of the meeting." This description is accurate, for the management relies on the exhibit to pay the greater part of the bills for the Session. Perhaps very few of those in attendance at the meeting realize that our annual session costs approximately six thousand dollars, the exact amount depending upon the terms we are able to secure, and with the expenses mounting yearly. During the week a minimum of twenty-five meetings are held, and nine meeting halls are required in addition to the minimum of 8,000 square feet occupied by the exhibits and registration and information bureaus.

Had it not been for the income from exhibits, it would long since have been necessary to raise the per-capita assessment of members or else to charge a registration fee of all in attendance. The exhibitors, therefore, are entitled to an appreciative audience, and, if for no other reason, every one who attends the meeting should make a special point of "doing" the exhibits.

There *is* another reason, however. You read about new discoveries and inventions, about new instruments and new technics, and you wish it were possible to see these things demonstrated. The exhibits make it possible. As a matter of good business, commercial houses keep up with the very latest improvements in medical theory and practice. There scarcely exists a live house today which is not keen to secure the right to manufacture or sell the new things that are developing at such an unprecedented rate. One electrical firm is advertising that a certain piece of apparatus is as good today as when it was bought ten years ago. This is an unusual piece of apparatus—so unusual that its manufacturers find this a talking point. Every exhibit shows something that was not there the year before,

and it is an unusual person who cannot learn something from a visit to the exhibits.

The American Medical Association has brought out a point which the profession may well take to heart. It is to the effect that every practitioner ought to read a general medical journal. The general practitioner should keep in contact with the developments in the various specialties, so that he may know how to advise his patients who are in need of such ministrations; and the specialist should follow the growth of medical and surgical technic so that his patients may be referred for general treatment whenever necessary. No specialty and not even general practice is self-sufficient in this age; the family physician and the specialist must have a working knowledge each of the other's realm.

The exhibits, then, supplement the general journal, because they present a general view of the books, instruments, drugs, and apparatus needed by the successful physician. The medical man will have much to learn from, let us say, the exhibits of optical equipment. They may give him a clue to a technic or method which will be invaluable to him. The eye man should not confine his attention to the exhibits obviously of interest to him. He may obtain at the nutrition exhibits, for example, information which will lead to treatment for some refractory case that has failed to yield to other forms of therapy. The possibilities are legion. It is not necessary to cite further examples. A review of the exhibits will emphasize our point that information worth the time taken to secure it will be forthcoming to any one who will seek for it with an open mind.

It cannot be supposed that any business man would year after year make the outlay necessary to stage an exhibit at our meeting if he did not have something to show worth the effort to both producer and consumer. To start with the smallest item of expenditure, the exhibitors will this year pay the State Society $5,840 for the privilege of showing their products at our annual session. There will be about sixty-five exhibits in the eighty-four spaces plotted. These will average perhaps three attendants to each exhibit—a total of 195. A week or thereabouts will be required of each to travel to and from Allentown, set up the exhibit, receive visitors, and pack the equipment for shipment. At the modest estimate of $50 per week apiece, the payroll of attendants would total $9,750. The equipment of each booth — furnishings, electricity, articles for display, samples for distribution, etc.—would not average less than $300, and probably much more. At the minimum figure, the investment in the 65 individual exhibits would total $19,500. These three items alone would place a value on the exhibit of $35,090. Add to this the railroad fares, hotel expenses, cost of erecting the exhibits, and the work expended during the entire previous year by the officers and employees of the State Society, and the value of the exhibit would easily rise to forty or fifty thousand dollars. A show which costs this sum to stage is surely worth seeing.

To give an idea of the scope of the exhibit, a classified list of the exhibitors is appended. You may consider that you have a personal invitation from each of them to visit their respective booths.

Atomizers

The DeVilbiss Company, Toledo, Ohio.

Chemical, Biological, and Pharmaceutical

Abbott Laboratories, North Chicago, Ill.
G. W. Carnrick, Newark, N. J.
The Columbus Pharmacal Co., Columbus, Ohio.
Deshell Laboratories, Inc., Chicago, Ill.
The Gilliland Laboratories, Inc., Marietta, Pa.
Hoffmann-La Roche Chemical Works, New York, N. Y.
The Maltbie Chemical Co., Newark, N. J.
Merck & Company, Rahway, N. J.
Mutual Pharmacal Company, Syracuse, N. Y.
The National Drug Co., Philadelphia, Pa.
G. D. Searle & Company, Chicago, Ill.
E. R. Squibb & Sons, New York, N. Y.
Tailby-Nason Co., Cambridge, Mass.
The Vale Chemical Co., Inc., Allentown, Pa.

Seventh Street looking north from the Square—Dime Savings and Trust Bank on the left, and Allentown National Bank on the right.

Electrical Apparatus

Britesun, Inc., Chicago, Ill.
The Engeln Electric Co., Cleveland, Ohio.
H. G. Fischer & Co., Inc., Chicago, Ill.
Hanovia Chemical & Mfg. Co., Newark, N. J.
The Kelley-Koett Mfg. Co., Inc., Covington, Ky.
The Liebel-Flarsheim Co., Cincinnati, Ohio.
McIntosh Electrical Corp., Chicago, Ill.
Victor X-Ray Corporation, Chicago, Ill.
Wappler Electric Company, Long Island, N. Y.

Electro-Diagnostic Instruments

Cameron's Surgical Specialty Co., Chicago, Ill.

Foods

R. B. Davis Company, Hoboken, N. J.
The Dry Milk Company, New York, N. Y.
Horlick's Malted Milk Corp., Racine, Wis.
Knox Gelatine Co., Johnstown, N. Y.
The Laboratory Products Co., Cleveland, Ohio.
The Lactropon Laboratories, Inc., Chicago, Ill.
Mead Johnson & Co., Evansville, Ind.
Mellin's Food Company, Boston, Mass.
Merrell-Soule Co., Syracuse, N. Y.
Milter Laboratories, Inc., Philadelphia, Pa.
Moores & Ross, Inc., Columbus, Ohio.

Insurance

The Medical Protective Company, Chicago, Ill.
Metropolitan Life Insurance Co., New York, N. Y.

Medical Books

D. Appleton & Company, New York, N. Y.
P. Blakiston's Son & Co., Philadelphia, Pa.
C. V. Mosby Company, St. Louis, Mo.
W. B. Saunders Company, Philadelphia, Pa.

Metabolism Apparatus

Sanborn Company, Cambridge, Mass.

Mineral Water

Kalak Water Co. of New York, Inc., New York, N. Y.

Opticians

American Optical Co., New York, N. Y.
McIntire, Magee & Brown Co., Philadelphia, Pa.
Street, Linder & Propert, Philadelphia, Pa.

Pharmacists

Albert Drug Company, Allentown, Pa.
McKennan Drug Company, Pittsburgh, Pa.

Physicians' and Hospital Equipment

Faucett & Porter, Philadelphia, Pa.
Frank S. Betz Company, Hammond, Ind.

Splints

DePuy Manufacturing Co., Warsaw, Ind.

Surgical and Dental Instruments

Climax Dental & Surgical Supply Co., Scranton, Pa.
Harold Surgical Corp., New York, N. Y.
J. Sklar Mfg. Co., Brooklyn, N. Y.
Charles Lentz & Sons, Philadelphia, Pa.
E. B. Meyrowitz Surgical Instrument Co., Inc., New York, N. Y.
The Physicians Supply Co. of Phila., Philadelphia, Pa.
Wasserott Brothers, Wilkes-Barre, Pa.

Surgical Supporters and Orthopedic Appliances

Wm. H. Horn & Brother, Philadelphia, Pa.
George H. Miller, Allentown, Pa.
The Scholl Mfg. Co., New York, N. Y.

THE SOCIAL PROGRAM

Monday, October 1

Evening.—Banquet by Officers of Lehigh County Medical Society for Officers of the Medical Society of the State of Pennsylvania at the Elks Club, Allentown.

5:30 p. m.—Dinner for Executive Board of the Woman's Auxiliary at the Elks Club, Allentown.

Evening.—Theater Party for Delegates and Their Wives.

Tuesday, October 2

5:30 p. m.—Barbecue for Men Only at the Allentown Fair Grounds.

7:30 p. m.—Entertainment by the High School Band, Grand-Opera Stars, a Male Quartette, and Accordionist, and Addresses by popular Medical Speakers at the High School Auditorium.

Wednesday, October 3

1:30 p. m.—Drive to Game Preserve and Peach Orchards of General Harry C. Trexler, Returning by Way of the Fishery. Both Members of the Auxiliary and Physicians are invited.

4:00 p. m.—Tea for Auxiliary Members at Cedar Bluff, the Home of Mrs. Frederick R. Bausch.

7:45 p. m.—Public Meeting at Allentown High School Auditorium.

9:30 p. m.—President's Reception and Ball at Mealey's Auditorium.

Thursday, October 4

1:00 p. m.—Bridge Luncheon for Auxiliary members at the Elks Club.

Friday, October 5

10:00 a. m.—Inspection of Hospital, Buffet Luncheon, and Clinic at the Allentown State Hospital as guests of Dr. H. I. Klopp, Superintendent. All physicians invited.

JEFFERSON LUNCHEON

The Jefferson Medical College Alumni Luncheon will be held at one o'clock, Wednesday, October 3d, at the Americus Hotel, Sixth and Hamilton Streets, Allentown. Dr. Hobart A. Hare will be one of the speakers. Reservations should be made early, in the lobby of the Hotel. Price per plate $1.

CLINICS

On Monday, October 1st, surgical and other clinics will be held at the Allentown Hospital and the Sacred Heart Hospital. Full information in regard to these clinics will be posted on the bulletin board at headquarters, and bus service will be maintained to the various hospitals.

On Friday, October 5th, at the State Hospital, in East Allentown, Dr. Henry Klopp, superintendent, will entertain visitors at a clinic and

buffet luncheon. At 10 a. m. there will be an inspection of the hospital, at 12.30 the buffet luncheon will be served, and at 1.30 the clinic will be held. All physicians attending the meeting of the State Society are invited to remain for this affair.

THE GOLFING ASSOCIATION

All members of the State Society who play golf are invited to bring their clubs with them to the Allentown session and join the Golfing Association of the Medical Society of the State of Pennsylvania.

The golf competition will be held at the Lehigh Country Club on Monday morning, October 1, 1928, starting at 10 o'clock. The competition will consist of the championship eighteen-holes medal play, the low gross score entitling the contestant to the championship trophy. The low net score trophy will be given also, the section team trophies, the best nine-hole trophy, and the consolation trophy. No person may win more than one prize, and no prize will be awarded unless the winner is present at the dinner to receive it.

Dinner will be served at the Lehigh Country Club at six o'clock, at which time all trophies will be presented. The charge for the dinner will be two dollars, and will be collected at the first tee the day of the tournament.

Arrangements have been made by the local committee for golf privileges for the members of the Association at the Lehigh Country Club, which has a recently completed eighteen-hole course nestling at the foot of the Lehigh mountain, and includes the winding Little Lehigh River passing through the heart of it, so bring a few floaters.

Those who desire to play and do not have their cars will be provided with transportation to the golf course upon application to the local committee, whose members are: Fred A. Fetherolf, chairman, Martin S. Kleckner, Philip F. Newman, and S. C. Swartz.

John Welsh Croskey,
President;
Harold A. Miller,
Vice-President;
Thomas L. McCullough,
Secretary-Treasurer.

The Allentown State Hospital, where a clinic and luncheon will be held on Friday of the convention week.

INTRODUCING THE CONVENTION CITY

Allentown, the 1928 convention city, is not only ideally located, but is well-equipped for a gathering such as our Society stages, while its many points of historic, scenic, and industrial interest will make a visit there doubly inviting. Civic organizations, the Chamber of Commerce, hotels, and the local Committee on Arrangements have collaborated with the officers and business manager of the State Society in planning the many details necessary to the success of the convention, and the spirit of coöperation which exists bids fair to make the entire event one of the most brilliant in the history of the State Society.

As the sixth city in the State in population, Allentown recently attracted nation-wide attention with a monster jubilee celebration that marked its entrance into the class of American cities with 100,000 population. The jubilee, in addition, called to the attention of the public in a striking pageant the various factors which

helped the city to grow from one of 51,000 in 1910 to its present position among the municipalities of the East. It is for this reason, also, that the members of the Medical Society of the State of Pennsylvania are looking forward to their visit to the Queen City of the Lehigh Valley.

Noted for Its Cleanliness

Medical men will be particularly interested in the aspect of cleanliness for which Allentown is noted from coast to coast; in the new filtration plant which makes possible a 25,000,000-gallon supply for the residents of the city each day, or 250 gallons per capita; in the new municipal incinerator which daily consumes in the most modern and approved sanitary method more than thirty-two tons of waste. Of equal interest will be the new sewage system that is being installed at a cost of $3,000,000; the new million-dollar Tilghman Street bridge across the Lehigh River, on which work has already been started; as well as other municipal improvements. The Board of Education has just finished spending $3,000,000 on junior high schools and grade schools and is now contemplating spending a million and a half on an east side high school. In the junior high schools will be found the best-equipped vocational departments in the State.

In common with other visitors to Allentown, delegates to the convention will also find much to admire in the city's lighting system, an innovation without peer in the entire world. That a well-lighted city is a safe city has long since been the motto of Allentown, and steps have been taken to keep abreast of its growth with adequate illumination. The city's main street is not only one of the best illuminated in the land, but is also one of the most artistically adorned. Each lamp standard is brilliant with blooms in the summer and gorgeous with evergreens in the winter, the plants being held in large bowls built into the standards themselves.

Adding much to the cleanliness of the city are seventy-two miles of paved streets which cover its entire area of more than ten square miles and which are being added to annually by a progressive city government.

An Educational Center

Those who are interested in educational development will find in Allentown a system of public schools second to none in the land. In addition to two colleges, Muhlenberg and Cedar Crest, there are two private schools, Allentown and Hamilton Preparatory, two business colleges, and five parochial schools of high rank. Almost 15,000 children are enrolled in the public schools, while a staff of 450 teachers is required to administer the system. There are thirty public school buildings.

The city is likewise proud of its seventy-two beautiful churches that dot its every section and embrace a communicant membership of more than 40,000 persons.

The golf enthusiast will find in and about Allentown some of the finest courses in the East, the newest one rivaling, it is averred, St. Andrews in Scotland. The man with fraternal inclinations will easily find his favorite lodge housed in handsome quarters within easy access from the center of the city.

Allentown's Hospitals

As much a part of Allentown as its business and industries are the Allentown General and Sacred Heart Hospitals, which have been erected and maintained by the citizens of the city themselves, with the usual help to the former from the State.

The present Allentown Hospital, located at Seventeenth and Chew streets, represents a growth from 30 to 350 beds and an increase in staff of nurses from 7 to 150. Only recently the hospital put on a campaign for $600,000 which went over the top and has resulted in the erection of a spacious and modern service building and a new six-story patients' wing.

The Sacred Heart Hospital is likewise proud of a similar growth. Founded by the late Right Rev. Mgr. Masson in 1912, it now boasts a total of 158 beds in private rooms and wards, which will shortly be expanded to 350 beds through the buildings now being erected. The hospital has excellent equipment and, being located near the chief industries, most accident cases are sent there and the clinics are well patronized.

Both hospitals maintain excellent nurses' training schools where girls of the Lehigh Valley are trained to enter the nursing profession, and both house these schools in spacious modern buildings.

In East Allentown can be found the State Homeopathic Hospital, with a capacity of 1,200 patients. The institution receives patients from Bradford, Bucks, Carbon, Lackawanna, Lehigh, Monroe, Northampton, Pike, Sullivan, Susquehanna, Wayne, and Wyoming counties, and has done a big work in alleviating the afflictions of the mentally ill. Its buildings are valued at more than $2,000,000. On Friday of the convention week, Dr. Henry Klopp, superintendent of the hospital, will entertain all visitors to a clinic and a buffet luncheon.

Industries

Industrially, Allentown ranks second in the production of silk among the cities of the United States, the value of its annual textile products being more than $47,000,000. Metal products, machinery, automobile trucks, foodstuffs, cigars, cigar boxes, shoes, and leather goods are also manufactured in large quantities and bring the total value of the industrial products up to $125,000,000. More than 18,000 workers are employed in the 350 plants of the city, and draw salaries that approximate $25,000,000 each year.

Allentown's retail district is the shopping center for 300,000 persons residing within a radius of twenty-five miles. Its stores are well appointed and offer a large variety of attractive merchandise from domestic and foreign markets, and are on a par in every way with the city's progressive industries.

Towering over the retail section is the twenty-two-story Pennsylvania Power and Light Company building, one of the largest in the East, and one of the most beautiful architecturally. Each night the building is brilliantly illuminated in colors through an elaborate system of flood lights designed by W. D. A. Ryan, who was responsible for the world-famed night illumination of Niagara Falls.

In the same way that the Pennsylvania Power and Light building watches over the destinies of the mercantile district, the giant gas tank of the Allentown-Bethlehem Gas Company rises to meet the sky in the industrial section. The tank is the largest in Pennsylvania, and has frequently served as a beacon for aviators flying across this section, directions for whom are painted in monster letters across the top.

Railroads

Four railroads run into Allentown, the Lehigh Valley, the Reading, the Central Railroad of New Jersey, and the Lehigh and New England, while the Perkiomen branch of the Reading serves actually as a fifth road, covering the territory between Allentown and Philadelphia along the Perkiomen River. On the first three roads mentioned are run several of the crack trains of the country, with such important destinations as Chicago, Pittsburgh, Buffalo, and New York.

In addition to the railroads, two electric lines, the Lehigh Valley Transit Company and the Allentown and Reading Traction Company, serve a large territory in all directions, the former running an express train to Philadelphia every hour in the day. Bus lines under private operation or as adjuncts of the companies mentioned serve in a complementary capacity to the electric lines, and run to the Pocono Mountains and other near-by communities.

State Roads

The William Penn Highway passes through Allentown east and west, and the Philadelphia-Wilkes-Barre Highway bisects it north and south.

Theaters

Allentown's theaters, numbering more than twenty, offer a variety of entertainment—New York productions, road shows, vaudeville, and motion pictures—and will probably serve as a recreation center, particularly for the wives and families of those attending the convention.

A detailed account of the hotels appears on a succeeding page.

Commission Government

The city is administered by a commission form of government, which also sponsors an active health and recreation department and special bureaus on parks and public safety, as well as the water works. It is protected by a well-trained police force and an adequate fire department which includes 1,600 volunteers in addition to a large number of paid men. There are more than 150 fire alarms, advantageously and conveniently located.

History

Allentown was founded in 1762 by William Allen. It was incorporated as a borough in 1811 and as a city in 1867. Its early history is associated with the Revolution, for it was in Allentown that the Liberty Bell was hidden and protected from the invaders, buried under the floor of Zion Reformed Church, which still stands and is the Mecca for many tourists. In 1799 it was the scene of the famous Fries Rebellion.

It should also be of interest to medical men to learn that the first school of homeopathic medical instruction in the world was founded at Allentown on April 10, 1835, the eightieth anniversary of the birth of Hahnemann. The cornerstone was laid May 27, 1835, and a charter was granted by the Legislature on June 17, 1836. The institution, called the North American Academy of Homœopathic Healing Art, is now known as the Hahnemann Medical College of Philadelphia. A handsome stone tablet marks the site of the original school near Hamilton and Penn Streets, where the city public school administration building now stands. Pulsatilla, the first dose of homeopathic medicine, was given on the 24th of July, 1828, to a woman at Bethlehem when all other remedies had failed. She recovered.

The first physician of Lehigh County was Dr. Frederick Spiegel, who resided in Macungie Township as early as 1760, and was recorded as a doctor and surgeon. He was one of three physicians who attended Magdalena and Dorothea Snyder, who were wounded by the Indians on October 8, 1763, when their parents were killed. The Assembly paid the surgeon's fees, amounting to £44, 3s, 8d.

Dr. Gottlieb Bolzius was the first physician in Allentown, and hung out his shingle in 1766. In 1782 Governor James Hamilton visited Dr. Bolzius to be treated for cancer. Dr. John Frederick Ruhe opened the first drug store in 1794. He had previously assisted in King's Apothecary in London, England.

The Medical Society of Lehigh County was organized in 1853 in the office of Dr. Charles H. Martin, in Allentown, with the following officers: president, Charles H. Martin, Allentown; secretary, David O. Mosser, Breinigsville; treasurer, Thomas B. Cooper, Coopersburg. Other members were Peter Leisenring, Macungie; William Kohler, Egypt; and Tilghman H. Martin, Allentown. This society existed for a few years, then disbanded. Reorganization was effected in 1858, and regular meetings have been held since then.

The Allentown Academy of Medicine was chartered March 10, 1910. A library of a thousand volumes is its stronghold.

CONVENTION COMMITTEES

Of the Lehigh County Medical Society

General: Thomas H. Weaber, chairman, Victor J. Gangewere, secretary, Howard B. Erdman, W. Fred Herbst, Forrest G. Schaeffer, J. T. Butz, W. D. Kline.

Advisory: G. F. Seiberling, chairman, William A. Hausman, Jr., William L. Estes, Sr. (Northampton County), Jacob A. Trexler (Carbon County), William H. Hunsberger (Montgomery County), Hiester H. Muhlenberg (Berks County), Anthony F. Myers (Bucks County).

Finance: William J. Hertz, chairman, Hope T. M. Ritter, George H. Boyer, M. J. Backenstoe, Henry D. Jordan, C. J. Otto, J. Edwin S. Minner, W. J. Lowright, I. J. Weida, Charles H. Muschlitz, R. B. Klotz, Franklin B. Scheirer.

Publicity: Fred R. Bausch, chairman, John W. Noble, Harry L. Baker, Warren J. Peters, Sidney A. Quinn, Mahlon G. Miller.

Scientific Exhibit: William C. Troxell, chairman, R. L. Schaeffer, Charles R. Fox, Thomas W. Cook, H. A. D. Baer, S. M. Uhler, Charles A. Haff, Griffith S. Lawall, Henry E. Guth, William J. Fetherolf.

Hotels: Fred B. Harding, chairman, R. W. Bachman, F. S. Boyer, C. S. Kistler, Frederick G. Klotz, Paul C. Shoemaker, Thomas L. Smyth.

Entertainment: W. C. Masonheimer, chairman, Maurice Kemp, Harry J. S. Keim, L. C. LaBarre, Harry E. Klingaman, John D. Matz, Ralph F. Merkle, R. C. Peters, William B. Trexler.

Public Meeting: J. M. Weaver, chairman, Elmer H. Bausch, Harold E. Hersh, David J. Parmet, William A. Riegel, Charles H. Schlesman, Aaron D. Weaver.

Golf: Frederick A. Fetherolf, chairman, Martin S. Kleckner, Philip F. Newman, S. C. Swartz.

Automobile: William J. Schatz, chairman, M. W. Brossman, W. H. Butz, John T. Eckert, Ralph H. Henry, Frank R. Wentz.

KEY TO MAP OF PENNSYLVANIA ROADS

See Page 905 for Map

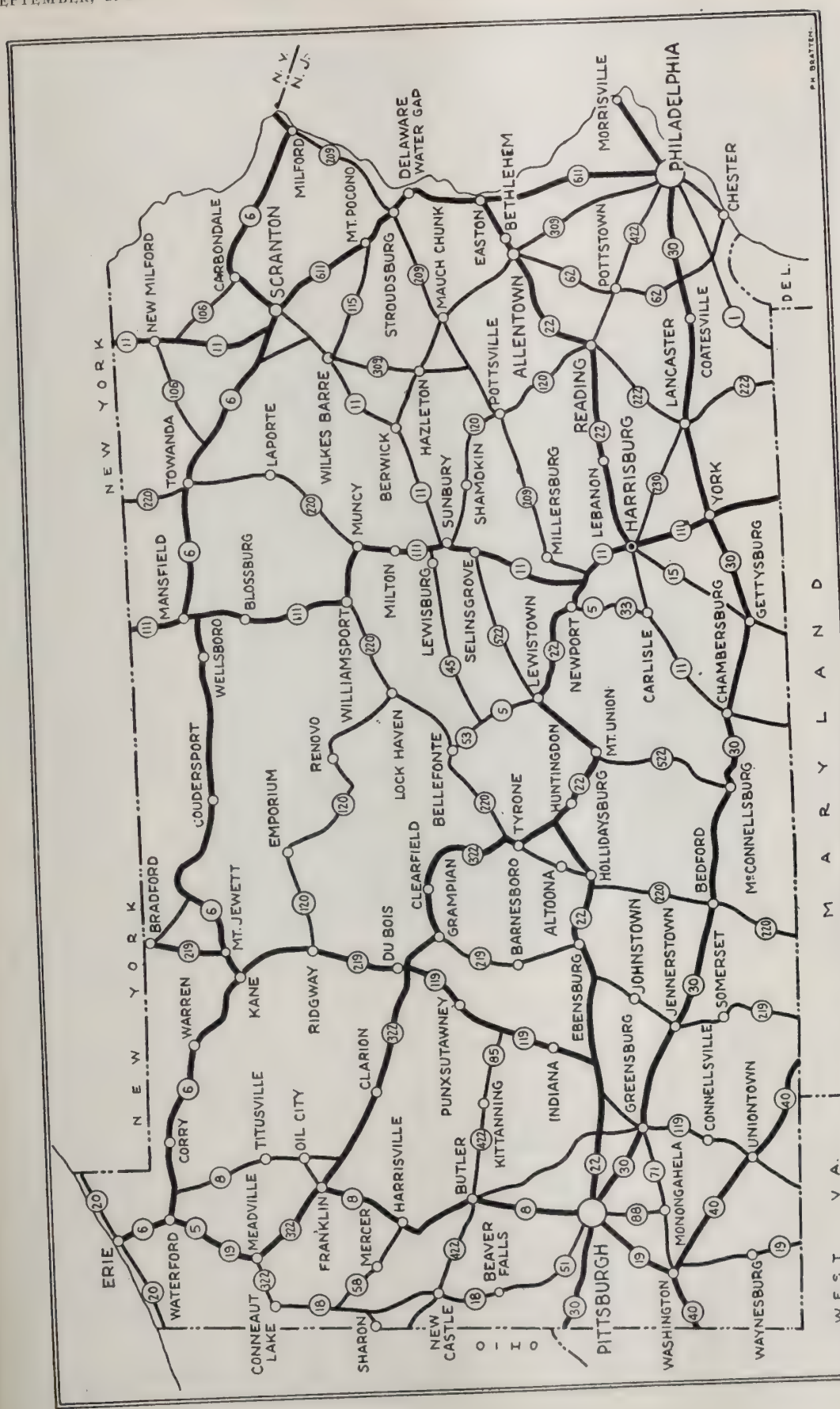
This map is intended only as a key to the main trans-Pennsylvania thoroughfares. The numbers of the Pennsylvania main roads, as shown on this map will be found along the roadside on metal signs; and in the majority of Pennsylvania municipalities these numbers continue as on State highways. The letters "R" and "L" found on telegraph poles under the route number indicate right or left turns. There are thirteen important trans-State highways, reaching all the important centers of population. These routes have recently been renumbered as follows:

Route No. 30—The Lincoln Highway.
Route No. 11-611—Lackawanna Trail.
Route No. 22—William Penn Highway.
Route No. 111-11-111—Susquehanna Trail.
Route No. 6-5-19-322-22—Lake to Sea Highway.
Route No. 219—From the Maryland line, south of Meyersdale, to the New York line, north of Bradford.
Route No. 6—Roosevelt Highway.
Route No. 19-86—From the Maryland line, south of Waynesburg, through Pittsburgh to Erie.
Route No. 20—The Yellowstone Trail.
Route No. 40—National Pike.
Route No. 1—Baltimore Pike.
Route No. 422-22-11—Philadelphia to Chambersburg, via Reading and Harrisburg.
Route No. 522-11—Lewistown to Narrowsburg, N. Y., via Wilkes-Barre and Scranton.

MOTORING INFORMATION

If you plan to drive to the Allentown meeting, the accompanying map showing the main roads of Pennsylvania will be a convenience. The roads have recently been renumbered, and very few of the new maps are available. The map we are presenting was drawn especially for this number of the JOURNAL by the official map-maker of the State Highway Department, so it may be relied upon.

The Lehigh County Medical Society has also arranged that any physician who wishes to motor to the convention can obtain the best route by



KEY MAP OF PENNSYLVANIA ROADS
See Page 904 for Full Explanation

addressing the Lehigh Valley Motor Club, Allentown, Pa. There will be no charge for this service.

Allentown affords ample garage facilities. The principal hotels have garages in connection with their buildings, and there are several other large garages. In addition, the Lehigh County Medical Society has arranged for free open-air parking on the Fair Grounds, with a guard on duty day and night.

HOTELS FOR ALLENTOWN SESSION

Hotel reservations should be made through the Committee on Hotels of the Lehigh County Medical Society. The members of this committee are as follows:

Frederick B. Harding, *Chairman*,
91 Hamilton Street,
Allentown, Pa.
R. W. Bachman
F. S. Boyer
C. S. Kistler
Fred G. Klotz
Paul C. Shoemaker
Thomas L. Smyth

The following list of hotels is published for the convenience of those who expect to attend:

Hotel Traylor, Hamilton and Fifteenth Streets, Allentown, is the hotel nearest to the headquarters at the Masonic Temple. For this reason rooms have been reserved here for the officers and guests of the Society. All available rooms have been taken, but we are informed that there are about fifty private homes in this most delightful section of the city to which the Traylor can refer guests. The prices at the Traylor are as follows: Single rooms—tub bath, $2.50 to $4.50; shower, $2.50 to $3; running water, $2 to $3. Double rooms—tub bath, $5.50 to $6; shower $5 to $5.50; running water, $4 to $4.50. Double rooms with twin beds—tub bath $6 to $7; shower, $5.50; running water $4.50. Suites consisting of twin-bed room, double-bed room, outside porch, combination bath and shower—$11. Meals will be served in the roof garden at reasonable prices.

Americus Hotel, Sixth and Hamilton Streets, Allentown, is located ten squares from the headquarters, with ten-minute trolley service. It contains 326 rooms, all equipped with private bath, and all containing either a double or two single beds. About 225 rooms have been allotted to the Medical Society of the State of Pennsylvania during the week of its annual session. Daily room rates have been quoted to us as follows: Room with double bed—single, $4; double, $6. Room with twin beds—single $5 and $6; double $7.50 to $9. The main dining room on the lobby floor is open from 7 a.m. to 8.30 p.m. Club breakfasts are served at 75c, table-d'hôte luncheons at $1, and dinners at $1.50. There is also à-la-carte service. In the Aeroplane Grille, a table-d'hôte luncheon is served from 11.30 a.m. to 2 p.m. at 85c, and dinner from 5.30 to 8.30 p.m. for $1.25. The cafeteria is open from 7 a.m. to 8 p.m. The Central Motoramp Garage is located in the rear of the Hotel.

Hotel Allen, located on the Square, Seventh and Hamilton Streets, Allentown, is noted for the quality of its food. Room prices are as follows: Rooms with bath—single, $3 to $4; double, $5 to $7. Rooms with running water—single, $2 to $2.50; double, $3.50 to $4. Club breakfasts are served in the dining rooms from 35c to 75c. A business-men's luncheon at noon costs 75c, and table-d'hôte dinner is $1.25. There is also à-la-carte service. This hotel is located eight squares from the headquarters, with five-minute trolley service. The garage is located one square from the hotel.

Hotel Lenox, 34 North Eighth Street, Allentown, is located in the center of the business section, half a square from trolley service, and nine squares from the headquarters. There are three good garages within one-and-a-half squares. This hotel does not maintain a dining room, but there are a number of good restaurants near by. The hotel contains 70 rooms, but it will not be possible to secure single reservations during the week of our annual session. The rates on double rooms with running water are $3 to $4; with bath, $5.

Stag Hotel, 627-9 Hamilton Street, Allentown, accepts only men as guests. This hotel has been recently constructed, is strictly modern, thoroughly fireproof, centrally located, with hot and cold running water in every room. All rooms are furnished with twin beds. The rates are $2 for one person in a room and $3 for two persons. Good garage service is obtainable within one square of the hotel. No dining room is maintained. Trolley service every ten minutes.

The following hotels have also been listed by the Hotel Committee, but only directory information on them is available at this writing:

Penn Hotel, 101 North Seventh Street, Allentown—52 rooms, rates averaging $4 per day, American plan.

City Hotel, 28 North Seventh Street, Allentown.

Hotel Columbia, Tenth and Hamilton Streets, Allentown. Rooms quoted at $1 per day European plan.

As Allentown and Bethlehem have so grown together as to make practically one city, the Hotel Committee has also listed

Hotel Bethlehem, Bethlehem. This is a modern fireproof hotel of 200 rooms, only 50 of which have been promised our Society. These rooms all contain twin beds and baths, and the rates are $3.50 per day per person, with not less than two persons in each room. A dining room is operated with à-la-carte and table-d'hôte service as follows: breakfast 75c, lunch $1, and dinner $1.50. A modern coffee room is also at the service of the guests. From the center of Allentown to the center of Bethlehem is only five miles. Through trolley service is operated on a twenty-minute schedule up to noon daily, and a ten-minute schedule from noon to midnight. These cars can be boarded one square from the Hotel Bethlehem and go within one block of the headquarters. The fare is 16c each way, and the running time approximately thirty minutes. There is ample garage service in Bethlehem, and the route by automobile is paved.

As Easton is only one hour by trolley from Allentown, those who are unable to find satisfactory accommodations in the convention city may be interested in the

Hotel Lafayette, Easton. This is a strictly modern hotel, containing 300 rooms, and is described as a most delightful place to stay.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

Mrs. E. Kirby Lawson, *Editor,* 2533 Walnut Street, Harrisburg, Pa.

CALL TO THE FOURTH ANNUAL MEETING

Elks Club, Allentown, October 1 to 4, 1928

Many factors enter into the operation of a successful organization, the most vital of which is an active personnel—interested individual members united for progress toward the laudable goal of educational health. It is that for which the Woman's Auxiliary to the Medical Society of the State of Pennsylvania strives and in furtherance of which the annual meeting is called for October 1st to 4th inclusive, with Allentown as the host city.

The wives of doctors who compose this body are to be commended for their interest in the profession, its standards and objects, its purposes and accomplishments; and as a result, attendance at the State meeting will do much to foster an even greater spirit of coöperation and enthusiasm. It is with this in mind, therefore, that the wife of every doctor is urged to join the trek to Allentown in October. It will be a pleasant and immensely profitable experience. In our organization we are proud of the progressive growth, and with a well-attended meeting the Auxiliary cannot be other than an ever-increasing force throughout our State. Make yourself a part of this force with your presence and personality. Make your membership in the Auxiliary count.

The Elks Club—headquarters for the Allentown meeting of the Woman's Auxiliary to the Medical Society of the State of Pennsylvania.

Mary M. (Mrs. Charles H.) Smith,
President.

LETTER TO COUNTY AUXILIARIES

The following letter was sent to the president of each county auxiliary:

Dear Fellow Members:

In accordance with the By-Laws, the State Auxiliary meets at the same time and place as the State Medical Society (see Article VI), which is at Allentown on October 1st to 4th inclusive. The headquarters will be at the Elks Club, and the meetings the same place unless otherwise announced.

The meetings are being planned with the aim in view to be helpful, and we ask that you be regular and prompt in your attendance. The members of the Lehigh County Auxiliary are working on a program which forecasts a pleasant and profitable time. In conjunction with them we have planned our program accordingly. Therefore, we hope you will support the meetings which necessarily must be held in order to further the activities of the organization. You will note that the Guest Speakers' Meeting is of wide range, and promises much interest.

We hope you can increase your membership, and will send the full quota of delegates (one for every twenty-five paid-up members). Each delegate is to present her credential card (see By-Laws).

Will you kindly return the questionnaire, that your county may be included in the secretary's report. Also, please send with your delegate a condensed report of the year's work (typewritten if possible) that it may be published in the Pennsylvania Medical Journal (to which name the Atlantic Medical Journal will return, beginning with October). If you have sent a list of members, all that is necessary now is corrections and names and officers. Appended is a tentative copy

of the program. We anticipate the pleasure of meeting you in Allentown.

Very sincerely yours,

MARY M. (MRS. CHARLES H.) SMITH, *President.*
PAULINE M. (MRS. GEORGE H.) ROBINSON,
Corresponding Secretary.

THE PROGRAM FOR THE WEEK

Monday, October 1

5.30 p. m.—Executive Board Meeting and Dinner at the Elks Club.

7.30 p. m.—Theater Party for Delegates.

Tuesday, October 2

9.30 a. m.—House of Delegates Meeting at the Elks Club. Members and visitors invited.

- Call to Order by the President, Mrs. C. H. Smith.
- Invocation by Rev. Conrad Wilker, Pastor St. Michael's Lutheran Church.
- Address of Welcome by Dr. Howard Erdman, President Lehigh County Medical Society.
- Response by Mrs. C. S. Rebuck, First Vice-President.
- Announcement of Program by Mrs. T. H. Weaber, Chairman Program Committee.
- Welcome to New Auxiliaries by Mrs. W. J. Hertz, President Lehigh County Auxiliary.
- Reports of Officers, Committees, and County Auxiliaries.
- Report of Recording Secretary on Questionnaires.

1.30 p. m.—Guest Speaker's Meeting at the Elks Club. All women invited.

Addresses by:

- Dr. A. C. Morgan, President, Medical Society of the State of Pennsylvania.
- Dr. T. G. Simonton, President-Elect, Medical Society of the State of Pennsylvania.
- Mrs. Allen H. Bunce, President, National Auxiliary.
- Mrs. E. S. H. McCauley, State Secretary of Welfare.

7.30 p. m.—Entertainment and Addresses at the High School Auditorium.

Wednesday, October 3

9.30 a. m.—General Meeting at the Elks Club. All women invited.

- Unfinished and New Business.
- Report of Nominating Committee and Election of Officers.
- Reports on National Meeting.
- President's Address and Installation of New Officers.

1.30 p. m.—Drive to General Harry C. Trexler's Game Preserve and Peach Orchards.

4.00 p. m.—Tea at the Home of Mrs. Frederick R. Bausch, Cedar Bluff.

7.45 p. m.—Public Meeting at the High School Auditorium.

9.30 p. m.—President's Reception and Ball at Mealey's Auditorium.

Thursday, October 4

1.00 p. m.—Bridge Luncheon at the Elks Club. All members invited.

Headquarters will be at the Elks Club, 31 South Eighth Street, Allentown, where meals may be secured from 11.30 to 1.00 p. m. and from 5 p. m. to 8 p. m. A registration desk will also be maintained at the Masonic Temple, Linden and Fulton Streets, Allentown, Headquarters for the Medical Society of the State of Pennsylvania.

COUNTY AUXILIARY REPORTS

Berks.—The auxiliary joined the county medical society in its annual outing at the Reading Country Club, on July 11th. While the doctors golfed, the members of the auxiliary played bridge on the veranda and elected officers for the coming year. Mrs. R. E. Le Fevre was named president; Mrs. A. P. Isenberg, first vice-president; Mrs. William F. Krick, second vice-president; Mrs. Le Roy W. Frederick, treasurer; Mrs. Hiester Bucher, recording secretary; and Mrs. I. H. Hartman, corresponding secretary.

During the dinner, which was served in the ballroom, vocal selections were rendered by Miss Margaret Kenderdine and Mrs. Le Roy Frederick, accompanied by Mr. Rene Irvin.

PEARL E. HACKMAN, M.D., *Reporter.*

Lebanon.—This auxiliary held its annual meeting June 11, 1928, at "Greystone" in Berks County, the country home of Mrs. Irwin Lape's father. The following officers were elected for the ensuing year: president, Mrs. E. B. Marshall, Annville; first vice-president, Mrs. A. S. Reiter, Myerstown; second vice-president, Mrs. Irwin Lape, Lebanon; secretary, Mrs. J. D. Kerr, Lebanon; treasurer, Mrs. Monroe D. Reese, Lebanon.

Discussion of ways and means to assist the county medical society in its effort to protect the public health by obtaining signatures to the petitions for the defeat of the bill granting recognition to the cults then ensued. It was decided to follow closely each activity of the county society in this respect, and each member pledged personal support. An initial contribution of $50 to the Benevolence Fund was unanimously voted.

As most of the meetings are held in the city, several of the county eligibles are not members. Of the thirty-two members in the county medical society, twenty-two are represented in the auxiliary. The average attendance at meetings is ninety per cent.

CATHERINE KRAUSE (MRS. J. D.) KERR, *Secretary.*

Lycoming.—A delightful and interesting meeting was held at the Woman's Club, Williamsport, on July 13th. Guests were present from Clinton County Auxiliary, recently organized, Pittsburgh, Clearfield, Easton, Harrisburg, and Philadelphia. Before luncheon, Dr. A. C. Morgan, president of the State Medical Society, addressed the meeting on the subject, "The Value of the Auxiliary to the Medical Society." He gave much food for thought and inspired us all to do better work for the auxiliary. After luncheon a business meeting was held.

The treasurer reported the proceeds of an antique sale recently held to be over five hundred dollars. The hospital was voted $1,458 for improvements to the surgical ward. Mrs. E. A. Nicodemus, of Harrisburg, discussed her experience in securing subscriptions for *Hygeia.* Mrs. A. F. Hardt and Mrs. W. S. Brenholtz were elected delegates to the State meeting in October, with Mrs. T. K. Wood and Mrs. L. E. Wurster as alternates. The meeting adjourned until the second Friday in September.

ALTA METZGER (MRS. W. S.) BRENHOLTZ, *Reporter.*

Symposium On Lung Abscess Following Tonsillectomy*

LUNG ABSCESS FOLLOWING TONSILLECTOMY FROM THE STANDPOINT OF THE ROENTGENOLOGIST

WILLIS F. MANGES, M.D.
PHILADELPHIA, PA.

Lung abscess following tonsillectomy is characterized chiefly by wide variations in location, time of onset, severity of reaction, extent of involvement and destruction, and response to treatment. Delay in diagnosis might also be added.

Location

The majority of the cases we have seen have occurred in the lower lobes, more on the right than on the left. There are quite a few, however, in the upper lobes and in the middle lobe on the right side. For the most part, they seem to be in more or less close relation to the root area, that is, in relation to some fairly large bronchial tube, but not infrequently they are at a distance and at times entirely at the lung surface. We have previously expressed the opinion that those at the lung surface and not in relation to a reasonably large bronchus are probably the result of surface lymphatic invasion. Those in the interior of the lung and not in contact with the chest wall or the root area may be due to blood-stream infection. Those at the root area or in the lobes near the root are probably direct bronchial infections as the result of infectious material being drawn into the bronchi during the operation, or, as Dr. Chevalier Jackson has suggested, the infectious material may enter a bronchus with the air current and then penetrate the wall by way of the lymphatics and cause infection outside of the bronchial lumen. Certainly a large percentage of the cases show this relation with the root area or the larger bronchi. In the upper-lobe cases, it is probable that gravity has something to do with the infectious material reaching its destination, and that foreign matter under such conditions may get into the upper-lobe bronchi is shown by a case in which a small deciduous tooth crown lodged in the left upper-lobe bronchus during a tonsillectomy.

Time of Onset

Variations in this respect would be less remarkable if all possible means of diagnosis were resorted to early enough, but it is a fact that the onset may be very rapid and lead to determined investigation and diagnosis within forty-eight hours after operation. On the other hand, in many instances the onset is so insidious that the relation between the operation and the illness is sometimes overlooked and a diagnosis is frequently not arrived at for a matter of weeks or months following the tonsil operation.

Severity of Reaction

It naturally follows that the case in which the onset is rapid and the symptoms are urgent is one in which the infection is of a virulent character and there is intense reaction on the part of the patient. Early diagnosis and, especially, active treatment are necessary to prevent early death. In the more slowly developing type, the reaction at first may be inconsiderable; that is, there may be but little rise in temperature and comparatively little cough, and, in fact, the patient may manifest only slight signs of illness of any kind. We suspect that there are many such cases that spontaneously rupture into a bronchus and arrive at the final state of healing without a diagnosis ever having been made, but the slowly developing abscess may at any time become active and spread to other parts of the lung or even to other parts of the body.

Extent of Involvement and Destruction

The extent of the involvement at the time of the radiographic diagnosis may vary from a very small collection of exudate, either in connection with the root area or isolated at a more distant point, to a large portion of a lobe, or even one or more lobes may be completely filled with purulent exudate at the time of the first examination. The size of the area of involvement, however, is not an index of the extent of destruction of lung tissue that may be present. In other words, we have seen marked destruction of lung tissue in a small area of involvement and we have also seen very large areas clear up without any permanent destruction of lung tissue. However, as a rule, the larger the area of involvement, the greater is the extent of destruction of lung tissue and the larger are the cavities that remain. As a result of contraction of scar tissue, the lobes thus involved frequently contract and cause displacement of other thoracic organs. Many of the large cavities eventually disappear or remain only as moderately dilated bronchi. The stage at which treatment is instituted has the greatest influence on this sort of development.

Response to Treatment

Response to treatment varies, but perhaps not so widely as other phases of the situation. As

*Read before the Section on Eye, Ear, Nose, and Throat Diseases of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 6, 1927.

a rule, when diagnosis is made reasonably early and drainage is instituted before extensive destruction of tissue takes place, the course of the disease is very much shortened and the end results are good. This is true especially of the cases situated in such a manner as to be definitely suitable for bronchoscopic drainage. It is also true of those that are peculiarly well suited for surgical drainage. On the other hand, the cases in which there is extensive involvement and destruction and in which the clinical manifestations are those of severe reaction, the response to treatment is oftentimes very discouraging.

It is not within the province of the roentgenologist to prescribe the treatment, but certainly the roentgenologic findings do play an important part in determining the general plan of treatment. Certainly, the lesions that are in relation to the root of the lung or to the larger bronchi, and especially those in the lower half of the chest, should be considered suitable for bronchoscopic drainage, while those in contact with the surface of the lung and not in relation to a reasonably large bronchial branch, and particularly in the upper part of the chest, are probably primarily surgical cases. Between these two extremes there are all sorts of variations and conditions which influence the plan of procedure; but whether or not the bronchoscope is finally decided upon as the means of drainage, it may be said that, as a rule almost without exception, at least a diagnostic bronchoscopy should be done, and when the difficulties are greatest the patient is fortunate if he has access to both the surgeon and an experienced bronchoscopist. A case may primarily be suitable for bronchoscopic drainage but may later present conditions which demand surgical intervention. For instance, the lesion may extend to and involve the pleura and be complicated by empyema, or the exudate may disappear from the region of the larger bronchi but persist at the periphery and require surgical drainage. The determination of such procedures must be based largely upon the roentgenographic findings.

Delay in Diagnosis

Delay in diagnosis is encountered much too frequently. At any rate, a large number of the patients who have come under our observation have had their first radiographic examination at a stage when there was extensive involvement and often much destruction, and occasionally a patient is seen in whom the area is small and the lesion is well walled off. The responsibility for this delay in diagnosis does not rest with the surgeon who does the tonsillectomy, but rather with the physician who has care of the general health of the patient. It seems so easy to assume that the patient has caught cold following anesthesia or because he is weakened by a surgical operation, or that he has influenza if that disease is more or less prevalent, or that he has pneumonia with delayed resolution. For these and many other reasons radiographic examination is postponed. The number of lung abscesses following tonsillectomy, as compared with the number of tonsillectomies, is very small indeed, but still there are a great many patients suffering today with lung abscesses, and the possibility that such a lesion is present should always be kept in mind.

Roentgen-Ray Diagnosis

Lung abscess, regardless of its location and even in very early stages of development, produces radiographic shadows that are readily recognized as abnormal. Repeated ray examinations will soon present shadows which, to the experienced roentgenologist, become more or less characteristic of lung abscess, and the diagnosis should be reached with a great degree of certainty before the stage of cavitation. There are times when the radiographic shadows alone give insufficient data for a positive diagnosis. Then the history and all other clinical data, and finally the physical examination by a capable physician, are extremely important factors in the diagnostic procedure; but, since we are dealing with lung abscess following tonsillectomy, the chief factor in the diagnosis is a history of operation.

In the early stages of the disease, the outlines of the bronchial tubes can be seen through the shadow of the exudate. There is little or no tendency to sharp limitation of the lesion, and perhaps only the experienced eye will discover it. As the exudate increases, the bronchial shadows gradually become more obscured and finally are lost entirely in the interior of the area of involvement. The character of the shadows around the edges of the lesion is often a definite index to the manner of progression; that is, if the lesion has a tendency to become circumscribed by a barrier of leukocytes, then the marginal shadows become more or less sharply defined, whereas when the lesion is progressing, the marginal shadows remain more or less indistinct but extend in the line of progression of the infection.

There are several conditions from which lung abscess may have to be differentiated. They are active tuberculosis, enlarged root glands, interlobar empyema, and new growth. A patient may conceivably have any of these lesions even

though he has had a tonsillectomy. One would expect to find evidence of tubercle formation in some portion of the chest before making a diagnosis of tuberculosis. Then, too, an abscess would change from day to day much more than a tuberculous process would. This is true also with regard to enlarged root glands or new growth. The location of the infection, in addition, would nearly always give some definite clue as to the nature of the lesion. It is only in abscess around the roots of the lungs that there is any real difficulty in differential diagnosis, and this region, fortunately, is accessible to direct vision by means of the bronchoscope, which, in skilled hands, is the most reliable means of differential diagnosis. In a case of interlobar empyema, it may not be possible to differentiate because such lesions sometimes rupture into a bronchus and drain just the same as an abscess. However, they are apt to be irregular or oval in shape, whereas the lung abscess either takes the shape of a cone or is more or less rounded.

Localization

If bronchoscopy is to be the method of treatment, then localization in relation to a lobe or portion of a lobe or a bronchus is sufficient. This can usually be recognized pretty accurately by means of anteroposterior and lateral views or even by stereoscopic films, but a decision is made with greater certainty if the suspected bronchus is insufflated with a small quantity of bismuth or injected with iodized oil, in which case the location of the abscess with relation to the bronchial tree can be ascertained very accurately.

If surgery is to be the method of treatment, then localization must be made with relation to the chest wall. For such localization the roentgenograms must be taken with the patient in the same position as he will occupy for operation, so that a conference with the surgeon is important. Anteroposterior and lateral views are needed, and frequently the most reliable information is obtained by means of the fluoroscope. When cavities are actually present and are to be drained surgically, it is important to know the number and the exact location of each. For this, injection of iodized oil is used, after the contents of the cavity have been aspirated through a bronchoscope, if possible. At any rate, the oil should be injected by means of a bronchoscope into a given bronchus. Indiscriminate injection of iodized oil in quantity into the tracheobronchial tree is much less desirable than injection through a bronchoscope, for the reason that in quantity the iodized oil goes into the parenchymal portion of the uninvolved lung and may entirely obscure the shadow of the oil in the cavity. Again, we have seen the normal lobe beautifully injected, whereas the cavities in the diseased lobe have received none of the oil. The ideal situation is to have the oil only in the branch bronchus that is involved in the abscess. When there is not a cavity present or drainage through a bronchus, the insufflation of bismuth is preferable, for the reason that the bronchial branches are clearly outlined without the presence of overlying collections of the dense material. The bismuth stops abruptly in the obstructed bronchus, but goes into the third, fourth, or even fifth division of the normal bronchi.

One of the chief functions of the roentgenologist is to follow and demonstrate the progress of the disease or the results of treatment. From our experience with a great many abscesses following tonsillectomy, we feel that the most important consideration of all is that early diagnosis is almost essential to satisfactory cure. The treatment of the early case is almost uniformly satisfactory, whereas patients with delayed diagnoses require radical treatment over a prolonged period of time, and in the end, remain more or less invalids. Certainly, bronchoscopy has added a brilliant chapter to the treatment of this disease. It has not entirely replaced other surgical methods, but does offer a great deal to those patients for whom the operating surgeon could do but little, and when resorted to early in the course of the disease, it brings about cure in a high percentage of cases without recourse to surgical drainage.

Fifteenth and Locust Streets.

LUNG ABSCESS FOLLOWING TONSILLECTOMY FROM THE STANDPOINT OF THE BRONCHOSCOPIST

Observations Based on a Series of Fifty-Eight Cases*

LOUIS H. CLERF, M.D.
PHILADELPHIA, PA.

Recent medical literature shows clearly that lung abscess, as a complication of tonsillectomy, is assuming increasing importance. Its frequency of occurrence as a complication cannot be accurately determined. Moore's[1] statistics, in an analysis of over two hundred cases of pulmonary abscess, indicate that this complication occurs once in every 2,500 to 3,000 cases. In view of the fact that the attention of the medical profession was first directed to this subject by Richardson[2] in 1912, and since then there has been a relatively rapid accumulation of the num-

* From the Chevalier Jackson Clinics, Philadelphia, Pa.

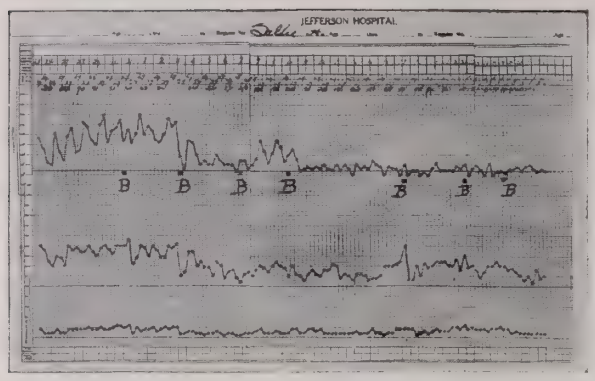


Fig. 1. Chart showing temperature range from date of admission to the hospital in the case of a girl, aged 18 years, who, six months before, developed an abscess of the lung following tonsillectomy. During this period, before admission to the clinic, fever was present a great part of the time. When spontaneous drainage of the abscess was inadequate, the fever remained high. With improvement of spontaneous drainage at the second bronchoscopic aspiration (B), the temperature dropped and, with the exception of a brief recrudescence, remained normal.

ber of cases, especially in recent years, it might be inferred that the incidence of lung abscess is increasing. This increase is probably more apparent than real. Chevalier Jackson,[3] in retrospect, concludes that "postanesthetic pneumonia" occurring in a number of his early cases of tonsillectomy was simply a post-tonsillectomic lung abscess. Thomas McCrae has often pointed out that the correct diagnosis is often missed if one fails to think of certain conditions as diagnostic possibilities in a differential diagnosis of obscure chest lesions. Development of symptoms and physical signs referable to the chest following tonsillectomy should immediately suggest the possibility of lung abscess instead of "catching a cold" as has so often been the case.

The roentgen ray has been a valuable aid in the differential diagnosis of lung lesions and has contributed more than any other measure in arriving at a correct diagnosis. In many instances it has given the first positive evidence of lung abscess.

It is important that all available clinical data bearing on the subject of lung abscess following tonsillectomy be placed on record. The seriousness of this complication renders it most important, when considering the advisability of tonsillectomy.

In some of their earlier contributions on the subject of bronchoscopic treatment of pulmonary suppuration, Lukens[4] and Moore[5] reported a number of cases developing after tonsillectomy. Their end results were most encouraging, and justified the further use of bronchoscopic aspiration in suitable cases.

This report deals with a group of fifty-eight cases of lung abscess which were referred to the Bronchoscopic Clinics for examination and treatment. In every case tonsillectomy had been performed and the succeeding symptoms of lung involvement which occurred were considered as a complication of the tonsil operation. Only those cases are included that were examined bronchoscopically. Cases considered suitable for surgical drainage in which no bronchoscopy was done are omitted. No attempt will be made to tabulate the individual case reports; instead, a brief summary of certain data will be presented.

Sex. The group consisted of twenty-six males and thirty-two females. No significance can be attached to this slight disproportion.

Age. Although there are no available data bearing on the age-operation ratio of tonsillectomy, it is believed that there is a definite disproportion between the frequency of operation and the occurrence of lung abscess at different ages.

TABLE 1

DISTRIBUTION OF CASES BY DECADES

Decades	*Number of Cases*	*Percentage*
0 to 10 years	6	10 plus
10 to 20 years	9	15 plus
20 to 30 years	23	39 plus
30 to 40 years	17	29 plus
40 to 50 years	3	5 plus
Total	58	

The youngest patients were aged 4 and 5 years respectively; the oldest was 49 years of age. Over 39 per cent of the cases occurred during the third decade, and 69 per cent of the total number of cases were observed between the ages of 20 and 40 years. The average age of all cases was 25.5 years. In pulmonary embolism, age is thought to be of importance; a majority of the cases reported were over 40 years of age.

Past Medical History. The existence of previous acute infection of the tonsil and peritonsillar structures or of the air passages was investigated. Because of certain insurmountable

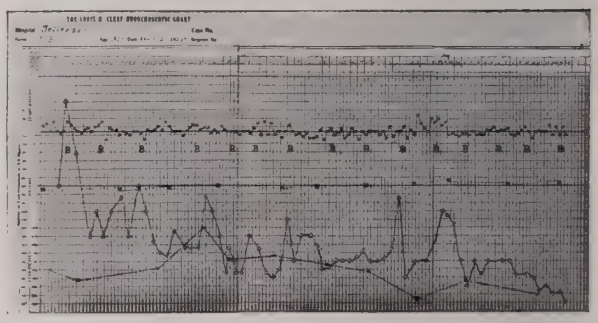
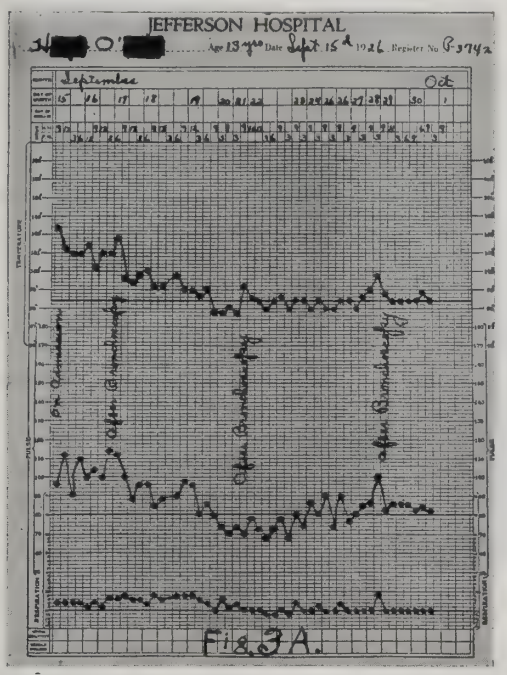


Fig. 2. A composite record which indicates the maximum and minimum daily temperature range (upper line of solid dots), the quantity of daily expectoration (o), the weight line (□), the leukocyte curve (▲), and bronchoscopic aspirations (B). The progress of the patient can be determined at a glance from these charted observations.

difficulties in eliciting accurate information, the records of only 43 cases are available. In 23 of these there was no history of sore throat or of any recent infection. In 13 cases there was a history of acute tonsillitis; in one case, a peritonsillar abscess. Two patients had pneumonia, one two years and the other ten years before operation. Four patients had influenza during the pandemic of 1918. One patient was gassed during the World War. Three were subject to frequent head colds, and one had suppuration of the nasal accessory sinuses.



Development of Symptoms. It is often difficult to obtain an accurate account of the history of illness from the patient or family. A detailed account of the development of the symptoms was secured in 47 cases. This number will form the basis for the succeeding observations.

The time of onset of symptoms is variable. In this group it varied from one to thirty-five days. The average time of occurrence of definite symptoms (pain, fever, chills, or chilliness, cough with or without expectoration, and hemoptysis), in the group of 47 cases, was 7.2 days. Often the patient was listless and irritable for several days before the onset of distinct symptoms. A brief period of malaise with general weakness and slight fever is not uncommon after uncomplicated tonsillectomy. Not infrequently it is stated that the patient "caught a cold" while at the hospital, or more often, when returning home.

Pain referred to some part of the chest was the most commonly observed early symptom. It is described as sharp, stitchlike, or stabbing, made worse by coughing or deep breathing, and

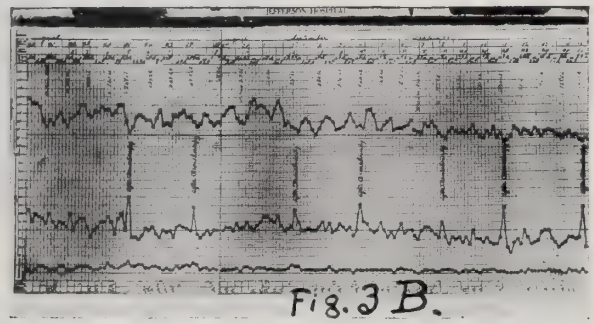


Fig. 3. Clinical records indicating the temperature range in cases of lung abscess on admission to the clinic before bronchoscopic aspiration was instituted and during the period that treatment was continued. A. Chart in the case of a boy who, one month before admission, developed an abscess of the upper lobe of the left lung after tonsillectomy. Following the first bronchoscopic aspiration there was a perceptible drop in the temperature, which soon became normal and remained so. A total of three bronchoscopic aspirations were performed, and the patient made a complete recovery. B. Slow but progressive improvement was observed in the temperature range of a patient, aged 27 years, with post-tonsillectomic lung abscess. The abscess was of five weeks' duration; the fever was continuous, being 102.8° F. on admission. Following aspiration there was a gradual decline of the fever, and after the fifth bronchoscopy the temperature remained practically normal. The patient made a complete recovery. Bronchoscopic aspiration was carried out twelve times.

Habits. Six patients were very heavy smokers.

Anesthesia. Of the 58 patients, 55 were given a general anesthetic; on three, the operation was performed under local anesthesia. In several cases the duration of the operation was prolonged; one patient was given ether for three hours. Of those operated upon under local anesthesia, one had a severe hemorrhage at operation and another shortly thereafter; a third vomited copiously of food that had been eaten a short time before operation. With one exception, no data could be obtained relative to primary hemorrhage or to the ligation of vessels and the placing of sutures in the tonsillar fossa at the time of operation.

suggests the pain of pleurisy. In one case it came on twenty-four hours after operation. In 22 cases (46 per cent) pain was the first symptom and was observed within four days following operation.

Fever, without a chill or chilliness, occurred as the first symptom in 8 cases (17 per cent). It is present at some time or other in practically all cases, and usually subsides after adequate drainage has been established (see figure 1). Continuance of fever after drainage has spontaneously occurred suggests either an extension of the infective process or defective drainage. A recrudescence in the later stages of the disease usually indicates interference with drainage. Fever with chills or chilliness was

noted as the first symptom in 6 cases (13 per cent). Severe rigors, uncommonly observed, usually indicate extension of the pulmonary lesion.

Cough, without expectoration, was the first complaint in 11 cases (23 per cent). With rupture of the abscess into a bronchus it becomes a constant and often distressing symptom, and is associated with expectoration of purulent material. The earliest occurrence of purulent expectoration was five days after operation, a large quantity of fetid pus being evacuated. The longest interval was forty-eight days after operation. In 12 cases (25 per cent) purulent expectoration was observed on or before the seventh day.

The material first expectorated varied in quantity and in appearance. In several cases a large quantity (one to two cupfuls) of dark fetid material suggesting decomposed blood was expectorated within several hours.

Much information can be gained from gross examination of a twenty-four-hour specimen of sputum. At the suggestion of Dr. Thomas McCrae we routinely collect in a glass graduate the sputum for twenty-four-hour periods. A daily quantitative record of the expectorated material, together with other data, serves as a valuable index in determining the progress made by the patient. This can be graphically charted, along with the temperature range, leukocyte count, and weight record, and the patient's progress can be noted at a glance (see figure 2).

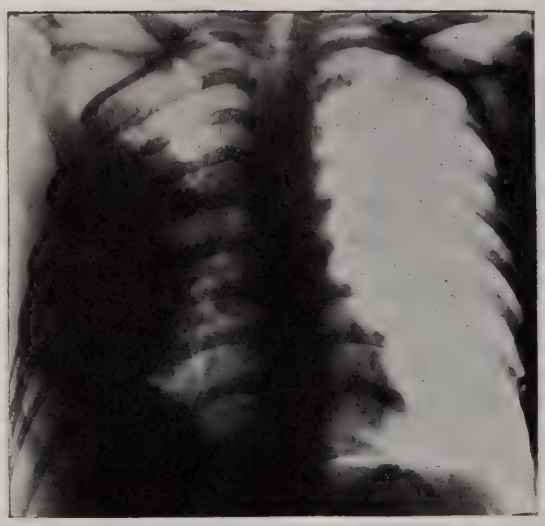


Fig. 4. Post-tonsillectomic lung abscess of over one year's duration occurring in the case of a patient, aged 26 years. The superficial location of the lesion, which appeared to involve the pleura, together with the extent of the involvement and the duration of the disease, indicated that this was not a suitable case for bronchoscopic aspiration. This opinion was concurred in by the internist, roentgenologist, and surgeon, who also advised that external operation was indicated. (Films and roentgenogram by Dr. Willis F. Manges.)

Hemoptysis as a first symptom did not occur in any of the cases observed. In one instance a considerable quantity of blood was expectorated on the seventh day. This case record is sufficiently interesting to warrant quoting it in detail:

A woman, aged 33 years, enjoyed excellent health except that she had frequent attacks of sore throat. Tonsillectomy was performed under ether anesthesia. No complications were encountered during the operation. Within twenty-four hours after operation she developed a sharp, stitchlike pain in the right lower chest; this was followed by fever and an unproductive cough. On the seventh day a considerable quantity of bright-red blood was coughed up, after which the symptoms subsided; however, a second hemorrhage occurred five days later. Following this, cough with purulent expectoration and fever continued. The patient did not improve under the care of her medical attendant, so she was referred to the Bronchoscopic Clinic for treatment. A diagnosis of lung abscess of the right lower lobe was made. Bronchoscopic treatment was instituted six weeks after the onset of the illness. Marked improvement was noted, and the patient was ultimately discharged as cured. In all, three bronchoscopic aspirations were carried out.

No history of severe dyspnea or marked respiratory embarrassment could be elicited in any of the cases.

Lobar Involvement. An accurate localization of a lung lesion by physical examination is difficult at times, as shown by the report of the internist who states that "there is a lesion in the lung which involves either the upper part of the lower lobe or the lower part of the upper lobe." Indeed, the roentgenologist cannot always be certain of the exact location of such an area of involvement. When, however, one correlates the findings of the internist who examines the patient from the outside, the roentgenologist who looks through the patient, and the bronchoscopist who sees pus draining from a bronchial orifice, the localization is as accurate as can be made without resorting to a necropsy. This routine has been carried out in our series of 58 cases.

In 57 cases the lesion was monolateral, in 36 instances (63 per cent) the right lung was involved, while in 21 (37 per cent) the lesion was in the left lung. In but one case the disease involved both lungs.

TABLE 2

DISTRIBUTION OF MONOLOBAR LESIONS

Right upper lobe	15
Left upper lobe	10
Right lower lobe	12
Left lower lobe	7
Middle lobe	1

DISTRIBUTION OF MULTILOBAR LESIONS

Right upper lobe and middle lobe	1
Right lower lobe and middle lobe	7
Left upper lobe and left lower lobe	4

It is interesting to note that in 25 cases (43 per cent) the lesion was confined to an upper

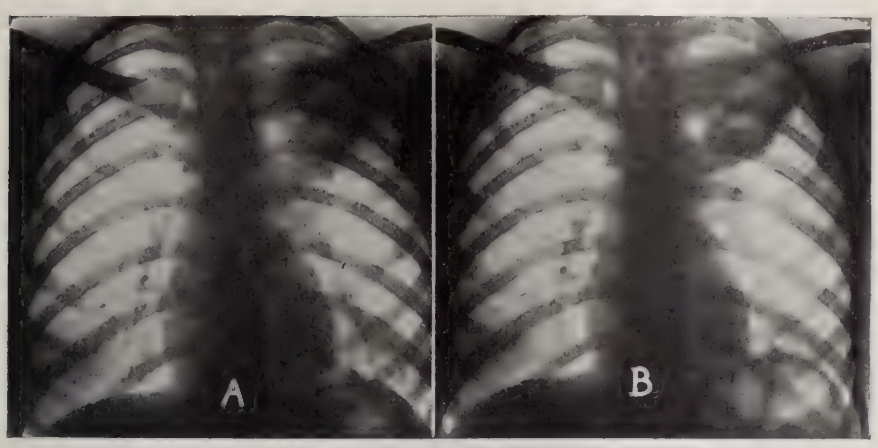


Fig. 5. Roentgenograms made in the case of a girl, aged 18 years, who developed fever, cough, and pain in the left chest eight days after tonsillectomy under general anesthesia. A diagnosis of lung abscess was made, and the patient was referred to the Bronchoscopic Clinic. Bronchoscopic aspiration was advised in consultation by the internist, roentgenologist, and surgeon. A. Roentgenogram made after admission to the Clinic showed an extensive area of exudate in the left upper lobe. There was no definite cavity present. B. Roentgenogram made after eighteen bronchoscopic aspirations had been carried out. The area of density had decreased in size, and a cavity was present with a fluid level. The patient's general condition showed some improvement. However, drainage was not satisfactory, and it was decided that, unless this could be improved shortly, external surgical drainage would be resorted to. (Roentgenographic aid by Dr. W. F. Manges.)

lobe. In an additional 5 cases an associated involvement of either the middle or the lower lobe was found. In but 19 cases (32 per cent) a single lower lobe was involved. These findings do not corroborate the statistics of Moore,[1] who found that in 60 per cent of the reported cases the abscess was in either the right (41 per cent) or left (19 per cent) lower lobe; nor do they conform to the site of lodgment of inspirated foreign bodies.[6]

Bronchoscopy in Treatment. Any method of treatment that is founded on sound surgical or medical principles and can be safely applied is worthy of consideration. When considered in connection with the treatment of a serious disease, such as lung abscess, it merits thoughtful reflection. Bronchoscopic aspiration, in trained hands, can be safely and quickly carried out, and, in properly selected cases of lung abscess, it is one of the most efficient methods of treatment at our command. The brilliant results recorded by Jackson, Lynah, Imperatori, Patterson, Iglauer, Myerson, Orton, Tucker, Jesberg, Lukens, Moore, McGinnis, Zinn, Richards, and others in the treatment of pulmonary abscess justifies the assertion that bronchoscopy has earned an undisputed position as an aid in the treatment of suitable cases of lung suppuration.

The remarkable results after a few bronchoscopic aspirations can be most convincingly expressed in the accompanying clinical records (see figure 3).

The proper selecion of cases for bronchoscopy does not devolve on the bronchoscopist; on the contrary, his judgment should be subservient to the opinions of the internist, roentgenologist, and surgeon (see figure 4). In this way the best interests of the patient will be served. Supervision of the general medical treatment should be left to the family physician and the internist. Bronchoscopic aspiration supplements but does not supplant any of the general medical measures.

Observation of the patient by the surgeon is of the utmost importance, even if operation is not indicated. The progress of the case can thus be followed, and surgical intervention can be proceeded with whenever indicated (see figure

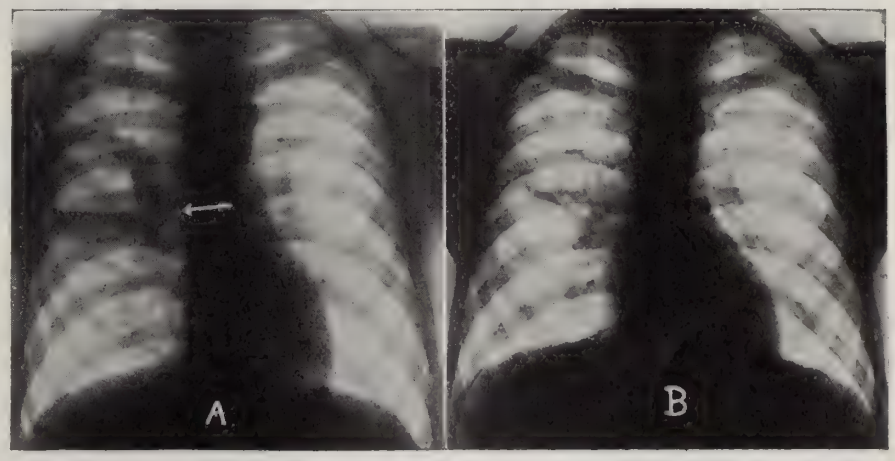


Fig. 6. Roentgenograms made in the case of a boy, aged 18 years, who was admitted to the medical service of Dr. George W. Norris, at the Pennsylvania Hospital. There was a history of tonsillectomy under general anesthesia five weeks before, with the development of symptoms one week after operation. A diagnosis of lung abscess was made. In consultation, it was decided to institute bronchoscopic aspiration. A. Roentgenogram, made on admission to the Pennsylvania Hospital, revealed a large abscess cavity with a fluid level. B. Roentgenogram made following the fourth bronchoscopic aspiration showed that the cavity had completely disappeared, and in its place there was moderate thickening. The patient was clinically well. There was no cough nor expectoration. There was no fever, and physical examination revealed a practically normal lung. (Roentgenograms by Dr. David R. Bowen.)

5). This routine has been adhered to in the Bronchoscopic Clinics.

Of the series of cases reported, bronchoscopic treatment was discontinued in 54 cases by reason of complete recovery, external operation, lack of improvement, or death. Four patients are still under treatment, and although improved, they are not included in computing the end results.

Of the 54 cases, 28 (51 per cent) are considered cured, and 7 (13 per cent) are definitely improved. In 5 cases (9 per cent) bronchoscopy was discontinued because of lack of improvement. In 11 cases (20 per cent) indications for external operation arose, and surgery was employed. Death occurred in 3 cases (5 per cent). None of the fatal cases presented anything to suggest that bronchoscopy had any influence on the ultimate outcome. In one case, an acute fulminating cerebral complication developed which proved fatal within several days. In a second fatal case, an endocarditis with a myocardial lesion developed. The third case presented an acute diffuse pneumonitis which rapidly involved an entire lung and terminated fatally.

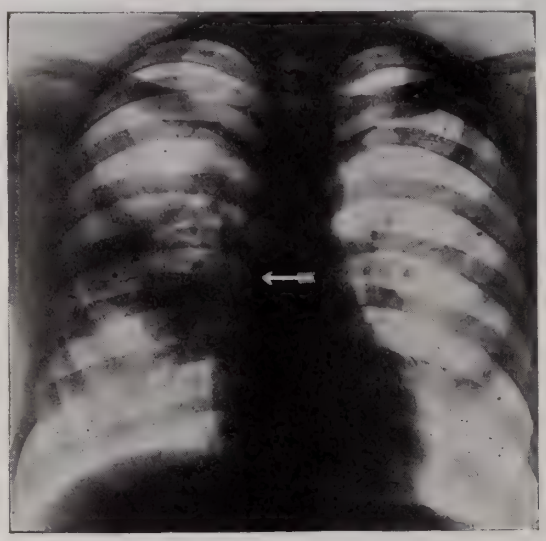


Fig. 7. Roentgenogram made in the case of a patient, aged 26 years, who, seven months before admission to the Bronchoscopic Clinic, developed symptoms of lung suppuration, coming on four days after tonsillectomy under a general anesthetic. The patient was treated by his family physician, who advised rest in bed, postural drainage, and general symptomatic treatment. The patient's general condition improved; however, cough with expectoration of fetid pus persisted. On admission, there was a well-defined, partially filled abscess involving the upper lobe of the right lung. Drainage was not adequate, as shown by the fluid level. Bronchoscopic treatment was instituted. After twenty-five bronchoscopic aspirations, given over a period of four months, the patient was discharged clinically cured. He has been under observation for one year, and has remained perfectly well. (Roentgenogram by Dr. John T. Farrell, Jr.)

In a further analysis of the cases treated, one is impressed with the good results obtained in those which received the benefit of early bronchoscopic treatment (see figures 6 and 7). Of the 54 cases, bronchoscopic treatment was instituted in 24 within three months after the onset of symptoms. The end results of treatment were as follows: cured, 19 cases (79 per cent); referred to surgeon for external operation, 3 cases; died, 2 cases. The fatal cases included the one complicated by endocarditis, and that of acute diffuse pneumonitis. The average number of bronchoscopic aspirations carried out in this group of 24 cases was 7.5.

In practically all of the cases in which treatment failed to show improvement, the disease was of long duration. However, bronchoscopy is not necessarily contraindicated for this reason. In several cases of lung abscess of long duration, the results obtained by a prolonged course of bronchoscopic aspirations were remarkable. In one case of 21 months' duration, a cure was obtained following 66 bronchoscopic treatments. In a second case of 26 months' duration, the lung lesion was cured after 17 bronchoscopic aspirations. In another abscess of 38 months' duration, a cure was obtained after 46 treatments, while marked improvement was noted after 52 bronchoscopic aspirations in the case of a woman who had an abscess of the right lower lobe for over four years. The results obtained in certain of these cases do not warrant prolonged delay before considering bronchoscopy as an aid in treatment. On the contrary, one should heed the advice of Willy Meyer[7] who strongly advocated immediate bronchoscopy for diagnosis, and recommended bronchoscopic aspiration at the very beginning of pulmonary complications.

CONCLUSIONS

1. With the increasing number of reported cases of lung abscess complicating tonsillectomy, it behooves every laryngologist to study his patients carefully before operation and to employ all possible prophylactic measures.

2. The development of pulmonary symptoms following tonsillectomy should immediately raise the question of impending lung abscess. No patient on whom tonsillectomy has been performed should be discharged from observation until three or four weeks have elapsed.

3. In a postoperative lung complication, no examination should be considered complete unless a roentgenologic study has been made.

4. Bronchoscopic aspiration, carried out by an experienced bronchoscopist, on the advice of the internist, roentgenologist, and surgeon, and in conjunction with such medical treatment as may be recommended by the internist, constitutes one of the most valuable methods of treatment.

5. No patient with an incipient abscess of the lung has had the full benefits afforded by med-

ical and surgical skill if bronchoscopy was not considered as a possible method of treatment in his case.

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128 South Tenth Street.

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ABSTRACT OF DISCUSSION

Of Symposium on Lung Abscess Following Tonsillectomy

John C. McAllister, M.D. (Ridgway, Pa.): A week ago, a young woman aged 22 years was brought to me. Four weeks previousy she had been driven twenty miles to a hospital, had her tonsils removed under a general anesthetic, and came home the next day. Her throat was very sore. She stayed at home for a week and then returned to work for one day, although she was still feeling bad. She had come home feeling as though she had grip, and had been in bed since then. Her temperature has not exceeded 99.3 since I have been attending her. Recognizing a lung condition, I secured the best consultant available, an internist. He was of the opinion that she is probably tuberculous, though previous to the tonsillectomy she had apparently been well. A radiogram was taken immediately which showed a lesion about the center of the right upper lobe of the lung. A roentgenologist, who is an internist, also went over her history, and he, too, was of the opinion that she has tuberculosis. There seems to be a small cavity in the lung, and I am uncertain whether this is a case of tuberculosis or lung abscess. The sputum is thick and of the consistency of jelly. It is yellowish-white in color. Apparently there is no free pus in the sputum. The case is very confusing, and I should appreciate Dr. Manges's advice.

(Later, a decision was reached that the patient had an abscess of the lung following tonsillectomy, with a cavity high up in the upper lobe of the right lung with walling off of the cavity and good progress toward recovery without surgical interference.)

J. Homer McCready, M.D. (Pittsburgh, Pa.): Our results have been highly satisfactory in the cases treated by bronchoscopy in which the abscess was recognized early. In other cases in which diagnosis has not been made early or other treatment has been instituted, our results have not been so good.

The successful management of lung abscesses depends upon coöperation as follows: (1) early diagnosis by the internist; (2) a complete outline and radiogram by a competent roentgenologist; and (3) a consultation between the internist and roentgenologist as to whether the case should receive medical treatment, be turned over to the bronchoscopist, or be operated upon by a general surgeon. If these cases can be segregated early, the end results will be much more satisfactory.

A woman with a lung abscess following pregnancy was treated medically for one month, and her weight dropped from 135 to 85 pounds. She was then transferred to the bronchoscopic service, and when we saw her she was so emaciated and weak that she could not even turn on the table. The first radiogram taken showed a single middle-lobe abscess, and a second plate showed a rupture into the pleural cavity and empyema. Bronchoscopy was decided upon and improvement was noted after the initial treatment. After the first week there was a noticeable increase in weight. In six weeks the pus had entirely disappeared on coughing. This case was interesting because of the empyema plus a lung abscess, both draining into a bronchus. I bronchoscoped this patient just last week, and no purulent secretion was seen. In fact, she has been free from all symptoms for nearly two years.

If the bronchoscopist receives cases early enough from the internist, the recovery time will be shorter and the number of recoveries will be greater. Of course, it must be borne in mind that all cases of lung abscess are not bronchoscopic. The roentgenologist will eventually decide the handling of these patients.

Dr. Manges (in closing): Given a patient 22 years of age, with previous good health, who comes to tonsillectomy and then develops evidence of a lung lesion within four weeks, showing a cavity in the upper lobe, one can almost certainly say that that patient does not have tuberculosis. If there is a cavity in the upper lobe as the result of tuberculosis, a diagnosis of that disease should have been made before tonsillectomy. Being a roentgenologist, I should depend upon the details of the shadows in the radiogram of the structures around the abscess cavity. If the patient has tuberculosis, there should be evidence of tubercle formation outside the abscess area and also evidence of the disease in the apex of the other lung. This corresponds so well with the history of many of these cases which are proved to be lung abscess that it is almost certain Dr. McAllister's patient had an abscess following tonsillectomy. Whether the invasion is by the aspiration route, the lymphatic route, or the blood stream matters not.

In so many cases of lung abscess following tonsillectomy, there is a period of calm between the time of aspiration (if it is aspiration) and the onset of the symptoms. In this respect, it is very much like a foreign body that has been aspirated. There may be no symptoms for weeks except occasional coughing attacks due to mechanical irritation, and for that reason bronchial foreign body frequently is not diagnosed. Most of these infections are drawn into the bronchus by the aspiration route, and the development is often slow.

Dr. Clerf (in closing): A diagnosis should be made before the question of treatment is to be seriously considered. If the laryngologist recognizes symptoms referable to the chest occurring in a patient who has had a recent tonsillectomy, he should exhaust every means to establish a diagnosis. If a diagnosis cannot be made by the ordinary methods, he should call in a roentgenologist. If the diagnosis has been made, it would be a matter of additional scientific interest to check the findings by the roentgen ray. The roentgenologist can give valuable aid, not only in diagnosis, but also in the matter of treatment, especially if the lung complication be a suppurative form. Patients usually will not object to these examinations, as they are most interested in securing that form of treatment which will give prompt results.

WHAT DO WE REALLY KNOW ABOUT THE TREATMENT OF ULCER?*†

WALTER C. ALVAREZ, M.D.
ROCHESTER, MINN.

It is remarkable how little we actually know about the causes and treatment of ulcer, and, paraphrasing Josh Billings, it is even more remarkable the number of things we know that aren't so. It would seem obvious that a successful method for the prevention and cure of any disease must generally be based on a thorough knowledge of the causes and natural history of that disease. Thus, how silly and futile were the early attempts of humanity to cope with bubonic plague, malaria, yellow fever, and typhoid fever, and how brilliant was the success attained as soon as physicians learned that they had to deal with living viruses which could travel from host to host with the help of rats, fleas, mosquitoes, and flies.

Today the difficulty with ulcer is that we know so little about its cause or causes that we have not yet found the weak points in the chain; we do not know where or how to attack, and our treatment remains largely empiric. Under such circumstances some of it must surely be misdirected and unnecessary, and perhaps as useless as the inhalations of vinegar to ward off plague, or the burning of fomites to stop the spread of yellow fever.

The Experimental Production of Ulcer in Animals

Hemorrhagic patches or acute ulcers have been produced experimentally in a score of ways, but it is hard to say yet how much light this work has thrown on our problems in man because these experimental lesions almost always heal rapidly, just as an operative wound of the stomach might do. As Aschoff says, what we need to know is not how to make an ulcer but how to make it chronic; we want to know why the ulcers in man heal so poorly, or when they heal, why they tend to break open again.

Acute experimental ulcers have been produced by injecting into the blood, or giving by mouth, all sorts of poisons and irritants; by the excision of a number of organs such as the suprarenals, the thyroid, and parts of the liver; by damaging the blood supply of the stomach, as by filling the vessels with emboli of various kinds, or by tying or partially obstructing some of the vessels; by traumatizing the gastric wall in various ways; by injuring either the vagus or the splanchnics, or both at the same time; by interfering with the passage of gastric and intestinal contents through the pylorus; by injecting bacteria into the blood stream, or giving them by mouth; by injecting various poisons into the wall of the stomach; and by combining one or more of the various methods. Excellent reviews of the extensive literature on the subject can be found in the remarkable monograph by Hauser or in the Mayo Foundation theses by Butsch and Morton.

As already stated, almost all of the ulcers produced experimentally have had little in common with the chronic ulcers of man. According to Hauser, those most nearly resembling human ulcers are the ones produced by injuring the nerve supply of the stomach. They are particularly interesting in view of the fact that ulcers are found commonly at necropsies on patients dying with tumors of the brain, and also because, as will be shown later, the symptoms of ulcer are influenced so markedly by nervous states.

The greatest success in obtaining typical chronic ulcers of the jejunum has been reported by Mann and his students, who for some time have been making them at will, simply by diverting the alkaline secretions of the duodenum into the lower ileum. Moreover, Mann has been able to produce prompt healing in such chronic ulcers by opening the animal again and returning the pancreatic secretion to its normal place in the tract.

The formation of these ulcers seems best explained on the assumption that the main factor in lowering the acidity of the gastric juice is the alkaline secretion of the pancreas, but some of the work now being done in Mann's laboratory shows that the explanation is probably not so simple as that, and formidable problems still remain. The fact that chronic duodenal ulcers have been found in dogs with bile fistulas and in dogs with a large part of the liver removed suggests that the bile is still another factor in neutralizing the digestant action of the gastric juice on the bowel.

Causes of Ulceration in Man

Since living cells are not digested by the gastric juice and dead ones are, the suspicion must be that an ulcer forms when the vitality of the tissues in small areas in the mucous membrane is destroyed or impaired. Such impairment might well be due to anemia, and that brings us to the point noted by many pathologists, that some, at least, of the chronic ulcers in man are due to degenerative changes in the blood vessels of the stomach. It can easily be seen that the

* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 5, 1927.
† From the Division of Medicine, the Mayo Clinic.

mucous membrane supplied by a plugged artery would probably be digested, and that the imperfect restoration of the blood supply might later make healing difficult or impossible.

It is conceivable that this type of infarction might take place more easily in the duodenal cap and along the lesser curvature of the stomach, because, as has been shown by several workers, the small blood vessels there are peculiarly formed and distributed. That the recuperative powers of the mucous membrane in the ulcer-bearing area of the stomach are low was shown by Morton, who found that experimental ulcers heal more slowly there than in the fundus and along the greater curvature.

It has been suggested that in certain areas the mucous membrane loses its antipeptic properties, but that does not mean anything until we get some inkling as to the mechanism which protects living cells against the action of the proteolytic ferments. Many have looked for an antiferment, but have found no sign of it. It has been suggested also that the ulcers originate in islands consisting of a more vulnerable mucous membrane, and some workers claim that these are more numerous in the stomachs of persons subject to ulcer.

There can be no question that the tendency to ulcer formation is inherited in some families; there are many striking instances of it reported in the literature, and I have seen some of them myself. Such a tendency would account for the fact that while some persons get rid of their ulcers without much treatment, others develop new ones almost as fast as the old ones can be cut out. There also is some evidence to suggest that Jews are particularly susceptible to recurrent ulcer.

So far, we can only guess at what the inherited defect may be. We know that the amount of hydrochloric acid in the gastric juice and the way in which it is secreted and later neutralized varies in different persons, and we know that these phenomena vary markedly in their reactions to that group of therapeutic measures known as a Sippy cure. If the regurgitation of duodenal contents is as important for the neutralization of the gastric juice as some believe, then we must consider the possibility of there being sthenic persons with so steep a gradient in the upper bowel that regurgitation can seldom take place. Physicians are coming to recognize a certain type of high-tension, "go-getter" business man whose nervousness and erratic habits of life predispose him to ulcer formation, and make it difficult for an ulcer, once formed, to heal under any type of treatment.

There is much evidence, also, to show that in some persons the tendency to ulceration of the stomach and duodenum is either secondary to or associated with a marked tendency to disease in the appendix, gall bladder and bile ducts. Once these organs have been infected and injured, it is hard to put the digestive tract back in such shape that it will stay well.

To sum up, then, we know something about the production of ulcer, but not enough to explain any of the puzzling features of the disease. Why, for instance, do some persons with constant hyperacidity fail to develop ulcer, while others with an old chronic ulcer and barely enough acid to activate their pepsin fail to show healing? Why also do some of the patients who have little or no acid after a Polya type of operation develop new ulcers? Or if we assume, as many now do, that ulcers are due to focal infection, why do the gastric and duodenal ones occur three and a half times as frequently in men as in women, and the gastrojejunal ones ten times as frequently in men? Would any one be willing to claim that the tonsils and teeth of men are so much more vulnerable than those of women? Furthermore, why should women, who so commonly have serious focal infection in the gall bladder, right next to the duodenum, have fewer ulcers there than men? Why, also, if there is but one cause for ulcer, do the duodenal lesions appear on an average ten years earlier than the gastric? It seems to me that if we really had any idea as to the cause of ulcer these peculiarities in age and sex distribution should be as easily explainable as are now the geographic distribution and seasonal incidence of malaria.

The Nature of the Pain in Ulcer

It would be helpful to us in our attempts to treat ulcer if we could get some idea even of the mode of production of the hunger pain which is so prominent a symptom of the disease. Probably some one is already saying: "What is difficult about that? Is it not due to the acid, and does it not disappear when this is neutralized by alkali or food?" I admit that at first sight it does look as if that ought to be the explanation, but a review of the literature on the subject shows that the problem is not so simple. How, for instance, are we to explain the presence of typical pain, relieved by alkalies, in patients with little or no free hydrochloric acid? How about the typical ulcer pain seen in some cases of carcinoma of the stomach with low acids and in some cases of syphilis of the stomach with no acid at all? How explain the fact that there is no constant relation between the amount of acid

present and the incidence or intensity of the pain, or that in many cases the filling of an ulcerated stomach with strong solutions of acid does not produce pain, or that many patients, when put to bed or sent on a vacation, immediately lose all their symptoms? How explain the presence of typical ulcer pain relieved by alkalies in patients in whom exploration fails to show any break in the mucous membrane of the stomach or duodenum?

In the latest edition of my book, I review the extensive literature on this subject and give the evidence for and against the two main theories in regard to the production of pain: one, that it is due to an increase in the acidity of the fluids bathing the ulcer, and the other, that it is due to exaggerated hunger contractions. Neither theory is satisfactory unless we assume that at times there is such an increase in the irritability of the nerve endings in the stomach and bowel that the patient is able to detect the presence of degrees of acidity or types of contraction which would otherwise not affect his consciousness. Only with the help of this assumption have the students of the subject been able to explain their puzzling observations. Palmer, after an extensive and painstaking study of the problem, has come to the conclusion that in about ninety per cent of the patients the chemical irritant is the only factor in the production of distress, while in the remaining ten per cent, muscular contractions may have something to do with it.

Palmer showed that as an ulcer heals under the influence of a Sippy cure it generally tends to become less sensitive until it no longer responds painfully to the introduction of acid into the stomach. This theory of gradual desensitization is not entirely satisfactory, however, because in practice we so often see sudden transitions from periods of distress to periods of comfort. Thus, an intelligent physician who for years before his operation suffered with ulcer pain day and night told me that at intervals he had remissions, lasting four or five days, in which he was perfectly well and absolutely immune to excessive eating and smoking. These periods came and went abruptly, and so far as he could see, could not be explained by any change in the routine of his life.

Some workers have suggested that the pain is due to inflammatory changes in the nerves passing near the ulcer, but this theory is just as defective as the others when it comes to explaining why the symptoms come and go so suddenly.

The Choice Between Medical and Surgical Treatment

The diagnosis of ulcer once made, the next problem is: What is to be done? Is the patient to be treated medically or is he to be operated upon? Fortunately, in many cases the indications are fairly clear, and both surgeon and internist would agree as to what should be done. For the present I shall limit the discussion to the treatment of duodenal ulcer. The problem of caring for patients with gastric ulcer is so bound up with the question of the origin of gastric carcinoma that I must deal with it under a separate heading. Fortunately, we have no such problems in connection with the diagnosis and treatment of ulcers in the duodenum, as the incidence of cancer in this region is exceedingly small.

Those patients with ulcer causing marked obstruction of the pylorus should generally be operated on as soon as they can be prepared. The stomach must be washed out once or twice a day for several days, fluids must be given rectally or intravenously, and the blood chlorids and bases must be restored as nearly as possible to normal. When there is considerable scarring and mechanical closure of the pylorus, it is foolish even to attempt medical treatment. It is in such cases that surgical treatment produces its most gratifying results.

The surgeon should be consulted immediately if the patient has already had a number of fairly thorough and more or less successful medical treatments, because the ulcer in such a person has become chronic and largely unresponsive to medical management. The surgeon should be called also if there is a tendency to severe bleeding, or if there is a strong suspicion that complications such as cholecystitis or appendicitis are interfering with the success of medical treatment.

In deciding on the method of treatment one must also take into account the occupation of the patient, and his intellectual, financial, and perhaps marital status. A laborer, a traveling man, a railroad man, or an engineer who goes to the ends of the earth will often have to be operated on because he cannot take care of himself. Medical treatment is prescribed for the early cases, for the young men and women with their first attacks, and for those who have the leisure and money to spend on what may bring but temporary relief. Patients should be told that it is often fairly easy to give relief and perhaps to bring about a remission; what we cannot promise is that the symptoms will not be back again in a few months or years. Some can afford to gamble on this possibility and can spend large sums on elaborate treatment in hospitals; others cannot gamble in this way, and they must choose the method that gives them the better odds.

Medical treatment will be chosen also by those who do not feel sick enough for operation or by those who, on account of business and family reasons, must put it off for a while. It is all that can be offered to those who are poor surgical risks and to those who, returning unhelped after an operation, show no evidence suggesting the presence of a gastrojejunal ulcer, a poorly made gastro-enterostomy, marked gastric stasis, a new ulcer, a carcinoma, or other serious complication that calls urgently for further intervention.

A point not sufficiently recognized is that one can generally tell within the first week or ten days of observation whether medical treatment will do any good. The patient who is going to respond satisfactorily generally does so in the first six hours; and if in the first six days the pain and acidity cannot be controlled, they probably will not be controlled in the next six months. By facing this fact promptly and honestly, the physician can spare his patients much time and expense.

The Medical Treatment of Ulcer

At first glance it would seem as if the best way in which to rest the stomach, to remove irritation by food, and to lower the acidity would be to starve the patient, and actually, this method was one of the first to be tried. Even today, some physicians begin their treatment with a certain amount of preliminary semistarvation, but very few try to withhold all food. We know now that starvation does not put the stomach at rest and does not entirely stop the flow of gastric juice; in fact, it is possible that in the absence of food the acid is better able to attack the ulcer.

Another objection to the use of starvation in the treatment of ulcer is that, in order to be efficacious, it would probably have to be persisted in for at least three weeks, because even the acute experimental ulcers are not entirely healed in that time and a chronic ulcer would doubtless be still slower in closing. Furthermore, patients with ulcer are often thin and below normal, and any treatment which will still further lower their strength and healing power is contraindicated.

Rectal feeding was tried in the early days, but was given up for a number of reasons, most important of which probably was the fact that the material given was not absorbed and the patient was not really fed. More recently some physicians have put the stomach somewhat at rest by feeding the patient through a fine tube passed into the jejunum. They have reported good results, but it is doubtful if many patients will endure the annoyance of the tube for a long enough time. Good results have been reported, also, from the use of a jejunostomy for feeding, and in the rare cases in which I have seen it tried, it worked so well that I wonder if we should not be using it oftener. It would be particularly useful, probably, in cases of ulcer of the stomach so high on the lesser curvature that removal is impracticable.

Many physicians, particularly in the past, have attempted to lower the acidity of the stomach by modifying the nature of the diet, but, as so commonly happens in medicine when a clinician bases his treatment on ideas that he gets from a hurried reading of the antiquated statements in a textbook on physiology, the theories have been shaky and the practice unsuccessful. As usual, authorities do not agree: one warns against giving meat or meat products because they will increase the secretion of acid; another warns against carbohydrates because they will not combine with the acid and will leave it concentrated and free (he believes meat should be given so that it can combine with the acid); another advocates the use of fat because it is supposed to lessen the formation of acid, while still another decries the use of fat because it will slow the emptying of the stomach and will leave the acid in contact with the ulcer for longer periods of time. I am not hopeful about what can be done by making such modifications in the diet, because it seems to me that if there were any way of really lowering gastric acidity by strict dieting it would already have been found.

In talking to scores of patients with ulcer I have been impressed with the fact that so many had been warned by physicians against the use of meat. As I have just shown, arguments may be adduced both for and against this injunction, so we had probably better base our practice on the fact that the patient who does well on an ulcer cure generally does just as well with meat as without it.

In actual practice, most of the diets used today are fairly rich in fat. Whether this is a survival of the fittest or simply the result of following the leader, I do not know. I suspect it is all due to Sippy, who perhaps got it from Lenhartz. The next question is, did Lenhartz get it by experiment, by theorizing, or by following some one before him? Perhaps some historian will tell us.

Ambulant Treatment

A large proportion of the men and women now suffering from ulcer are not receiving anything that an expert would call adequate medical

treatment. Most of them are being told to cut out meat and greasy foods and to take some soda. One of the main reasons for this neglect seems to be that today the only treatment described in our textbooks is the one advocated by Sippy. No attention has been paid to the fact that most men and women with ulcer must keep at their work. This is not ideal, but they cannot help themselves. The Sippy diet works well, and I have little objection to it except that it is too elaborate for the general practitioner and quite out of the question for his poorer and more ignorant patients. It calls for: first, considerable enthusiasm, faith, and training on the part of the physician; second, a hospital with good interns; and third, a patient who has time and money to spend on a cure which may not bring him more than temporary benefit. Whether we like it or not, most of our patients with duodenal ulcer are going to keep at work, and even the man who has tried a Sippy cure in one of his attacks is not coming back for another one every time he has a recurrence. Hence it is that, in the future, we should devote most of our efforts to designing a good ambulant treatment.

The Essential Element in the Treatment

The most characteristic symptom, particularly of ulcer of the duodenum, is pain which comes when the patient is hungry. What is more logical, then, than to anticipate and prevent this pain by giving food at frequent intervals; and actually, that is what most of us do. So far as I know, no careful work has yet been done to see what is the best food to be given in this manner. Unfortunately, even in our scientific work today we still tend to follow a custom as old as the human race; one that I shall describe in the words of Lawrence of Arabia. He tells us in *Revolt in the Desert* that "Pilgrims had built cairns here by the road. Sometimes they were individual piles of just three stones set up one above the other: sometimes they were common heaps, to which any disposed passer-by might add his stone—*not reasonably nor with known motive, but because others did, and perhaps they knew.*"

Lenhartz used a mixture of milk, egg, and cream which worked so well that most of us have used modifications of it ever since. I ask the patients to make up in the morning a mixture which consists of a quart of milk, two or three eggs, and either a gill or a half-pint of cream, depending upon the individual's need for extra calories. If milk is not well borne, a certain amount of thin gruel made from any cereal may be substituted in whole or in part. As, when so often happens, the patient must keep at work, he should carry a bottle of this mixture to his shop or office and take a glassful (about 6 ounces) at 10 a. m., 2 p. m., 4 p. m., 8 p. m., and 10 p. m. He should have another glassful by his bed in case he should wake during the night. If he should be traveling, he can get a milk shake, malted milk, or eggnog at a soda fountain. He may also carry with him or have in his desk a box of crackers.

Many physicians insist on having the food mixture iced, but I doubt if they could give any valid reason for this order and I am sure no physiologist could. It would be helpful if some one would give the food iced to one patient and at 60° F. to the next until he had a series large enough to see whether the temperature influenced the results obtained. Until we do this sort of thing we must continue to behave like Lawrence's pilgrims who trust implicitly in the supposed wisdom of their predecessors and who doubtless also share in that ancient belief that whenever a therapeutic measure fails one can improve it simply by adding a more costly, more complicated, and more troublesome ritual.

To my mind, one of the curious things about the usual careful ulcer care is that it is supposed to begin with several days of semistarvation, gradually modified by the careful addition of small amounts of food. The proverbial visitor from Mars would think that we were dealing with the stomach of a newborn babe, when actually, in most cases, we are dealing with the stomach of a man who, until we took charge of him, was eating practically everything. I am sure that these precautions are seldom necessary, because I have not used them for years, except in cases of hemorrhage, and have as yet seen no reason to repent. Possibly such a restricted diet helps in allowing the ulcer to heal, but if so, then in order to be logical we should keep it up, not for a few days, but for three or four weeks until there is really some chance that the lesion is covered over with epithelium.

With the patient up and at work, it is obvious that enough food should be given to satisfy the caloric requirements, so I allow three meals a day with the food chosen from my "smooth diet." Some observations by Mann and his students in which the experimental ulcers in dogs have been found to be severely injured by sharp particles of food and swallowed hair have strengthened my belief that it is well to avoid rough foods which might scratch or penetrate the lesion. The fact, however, that innumerable ulcers heal by themselves shows that our dietary "don'ts" are not always necessary.

If the patient is put to bed, it is no easy thing to say when he should be allowed to get up

because we do not know when the ulcer is healed. We can be fairly sure, however, that it is not healed before a month is up. After the patient's pain is gone, how long should he stay on frequent feedings? Again I do not know. I have always told my patients to continue with food between meals and with a smooth diet for several months after the symptoms disappear; and like the other physicians whose childlike faith on some points I playfully deride, I continue to do this despite the fact that experience has taught me that there are few human beings with sufficient will power to continue such a regimen after their pain is gone.

Antacids

If the neutralization of gastric acidity were the essential point in the treatment of ulcer, Sippy's plan of giving repeated large doses of alkalies would be the best. There is no question that it works well in many cases, but Crohn and others have shown that care must be taken to avoid a compensatory rebound of acidity after large doses of alkali, and many gastro-enterologists today are finding that their patients are doing better with amounts of soda smaller than were given a few years ago. Large doses should be avoided, also, because in some persons they produce a marked alkalosis with a train of annoying symptoms.

In cases of duodenal ulcer suitable for medical treatment, such perfect relief can often be obtained without the use of alkalies that it is questionable whether they need be prescribed at all. During the past ten years I have come to rely more and more on frequent feedings alone, and whenever it has been necessary to add alkalies to control the symptoms I have soon had other reasons to suspect that the case was not suitable for medical treatment. As I travel about the country I find more and more gastro-enterologists who feel as I do, and who are relying less and less on alkalies and more and more on frequent feedings.

Other Drugs

Belladonna is often used with the hope of lessening the irritability of the stomach and the amount of secretion, but my impression from reading the reports of those who have checked their results most carefully is that the drug rarely does what it is expected to do, unless perhaps when given in doses large enough to make the patient uncomfortable. I doubt if we can in this way really lower the irritability of the stomach, since Borchers has shown that even when the vagi are cut, the stomach continues to respond to local irritation and injury just as it did before the operation.

Rest

It is remarkable how quickly all the symptoms of ulcer will disappear in some persons as soon as they are put at rest, either mentally or physically. The distress will often disappear on the first day of a vacation or on the first day of rest in bed. So far as I can judge from the literature, too little attention has as yet been paid to the deleterious effect of exercise and hard labor on duodenal ulcers. I have had a number of patients whom I could not help until I induced them to change from an active to a sedentary type of work. Even after a successful gastro-enterostomy some patients will stay well only so long as they keep away from the plow handle and the pitchfork. The first portion of the duodenum serves as a sort of hook from which the stomach swings like a hammock, and it may easily be that this anatomic arrangement has something to do with the tendency to ulceration at this point. The safest exercise for the patient with ulcer would seem to be walking.

In California I do not remember ever having heard a patient with ulcer complain that his attacks came in the spring and fall, while in Minnesota I hear it all the time. Possibly the reason is that in California there is no decided change in the seasons, and hence less need for haste and intensive effort in sowing and harvesting. That this is not the whole explanation, however, is shown by the fact that even some of the sedentary workers experience these flare-ups in spring and fall.

Removal of Focal Infection

There are a number of gastro-enterologists, for whose learning and good sense I have great respect, who are now advising, especially in cases of recurrent ulcer, that every discoverable focus of infection be removed. It is an experiment which should probably be made but unfortunately it will be a long time before it can be said definitely that the results are commensurate with the efforts made and the losses sustained by the patients.

There is no question that the world owes a debt of gratitude to Rosenow for having hammered home the lesson that foci of infection are sources of great danger to the body. The unfortunate feature is that whenever physicians secure a therapeutic measure which works spectacularly in one field, they promptly use it with unquestioning faith in all others. The history of medicine shows that at first every one writes as if there could be no question about the efficacy

of the treatment, but sooner or later disillusionment comes, and the measure falls into disuse except in those cases in which it happens really to be of value.

The results of Rosenow, Haden, and others are suggestive and will doubtless eventually be helpful, but it hardly need be said that the production of hemorrhagic patches, or at most acute ulcers, by the injection of bacteria into rabbits does not prove that the removal of foci will cure ulcers in man. When Rosenow obtains from the tooth of a patient with ulcer a streptococcus with an elective affinity for the gastric mucosa, many assume that the ulcer was produced by those bacteria and that they went from the jaw to the stomach. I find it easier to account for the phenomenon by assuming that bacteria which have become accustomed to a diet of gastric mucosa have wandered about and have invaded the area of low resistance in the apex of the tooth. Certainly this explanation is the only tenable one in those cases in which the tooth lost its vitality years after the development of the ulcer.

I often ask for the thorough removal of foci of infection, but for the good of my scientific soul I like always to confess to the patient that it is a gamble with, so far as my small personal experience goes, the odds against success.

SUMMARY

Little is known about the causes of ulcer; not enough to serve as a sure guide to treatment. Ulcers can be produced experimentally in many ways, but, for the most part, they are acute and not chronic ulcers. The peculiar susceptibility of some persons to ulcer is discussed. The theory of focal infection as a cause of ulcer does not explain any of the peculiarities in the age and sex incidence of the disease. It is not easy to explain the production of pain in ulcer.

The indications are given for medical and surgical treatment, and an ambulant type of medical treatment is described. The Sippy treatment is unsatisfactory because most patients cannot afford it.

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Symposium on Orthopedic Surgery*

THE DIAGNOSIS AND TREATMENT OF ORTHOPEDIC DEFORMITIES IN EARLY CHILDHOOD

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The object in discussing this subject is to ask for coöperation in preventing the severe types of permanent deformity which always occur in congenital conditions if treatment is delayed after the second year. The larger orthopedic clinics are overrun with cases of physical defects in children from five to fifteen years of age—defects which at this age cannot be entirely corrected, but which could have been completely eliminated if the treatment had been started at the proper time. It is the physician who first sees the cases and not the orthopedist who must assume the responsibility for early diagnoses.

In this paper it will be possible to mention only the most important congenital deformities, and give briefly the salient features of their diagnosis and treatment.

Beginning in the upper portion of the body, the most common congenital defect is torticollis, or wryneck. In this condition the head is tilted toward one shoulder and the chin is rotated towards the other shoulder. The position is caused by the contracture of the sternocleïdomastoid muscle on the side towards which the head is tilted. This deformity is usually noticed immediately after birth or within the first few months of life. The cause of congenital wryneck has not been positively established, but it is known that there is definite degeneration and scar-tissue formation in the affected muscle. In addition to the tilting and rotation, which increases as the child grows, there also appears a definite asymmetry of the face and a more or less prominent lateral curvature of the cervical and upper dorsal spines. These latter symptoms are permanent, and cannot be corrected by any type of

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treatment. However, if treatment is started within the first few years of life, the deformity can be entirely overcome. A few of the very mild cases may be corrected by stretching and massage, but the vast majority demand surgical interference. The operation is an open excision of the sternoclavicular attachment of all the contracted tissues. Subcutaneous tenotomy in this region is too dangerous to be advocated. Following excision, the head should be held in the overcorrected position by cast or brace until the tissues are well healed—usually a period of four to five weeks. Massage to strengthen the weak opposing muscles and stretch the contracted neighboring muscles should be given until the deformity is entirely corrected. In this, as in all congenital deformities, early correction and thorough aftercare is essential in obtaining a perfect result.

The second common defect noted in the upper portion of the body is that known as obstetrical paralysis, or birth palsy. This is not a true prenatal defect, but is caused by trauma at the time of birth. In these cases a history of difficult labor and strenuous manipulation of the head and arm of the child during its progress through the birth canal is usually obtained. The actual pathologic results of this birth injury are still a matter of much discussion. Many authorities maintain that the deformities are the result of paralysis of the nerves of the arm, due to tear of the brachial plexus; others maintain that injury to the shoulder joint, with resultant hemorrhage and pressure in the axilla, are the primary features. Probably both these conditions give rise to the deformity, although in my own experience the shoulder injuries are the most common. The symptoms of this condition are very constant. The affected arm lies limp against the side, the arm is held straight, it is rotated inwardly, and there is inability to abduct and externally rotate the shoulder and suppinate the forearm. There is paralysis, more or less complete, of the deltoid, supraspinatus, infraspinatus, teres minor, biceps, and suppinator muscles. As the child grows older the arm becomes fixed in this position, and the contractures become so marked that only surgical interference can overcome them.

In the majority of cases, if treatment is started in the early months of life, a remarkable amount of improvement can be expected. Thorough, skillful massage of all the affected muscles, with active or assisted exercises, must be carried on daily for long periods of time. During this treatment the arm must be held in the best position to stretch the strong and relax the weak muscles. This position is abduction of the shoulder to a ninety-degree angle, external rotation of the shoulder, flexion of the elbow, and suppination of the forearm. While 100 per cent recovery cannot be expected in this condition, remarkable improvement can be expected if the treatment is begun early and thoroughly carried out. In the older cases, surgical correction of the contractures, followed by long massage and exercise will give a moderate amount of improvement.

In a small percentage of cases the muscles of the hand and wrist show marked involvement, but the general principles of correction of deformity and early massage and exercise hold good in these cases as in the upper-arm type.

Congenital deformities of the trunk are rare. The only one which warrants mention is spina bifida occulta. This is a congenital lack of fusion of the vertebral arches, occurring most commonly in the low lumbar, but seen at times in the dorsal and cervical regions. It is usually associated with an overgrowth of hair over the affected region. Accompanying this condition, or as a result of it, are numerous defects of the lower extremity, such as dislocations, clubfeet, partial paralysis, and sensory changes. The spinal defect can best be diagnosed by x-ray. The resultant defects, such as paralysis or sensory disturbances, may often require surgical interference and removal of pressure bands in the vertebral cleft. The accompanying deformities, such as clubfeet and luxation of the hip, should be corrected at the earliest possible moment.

The most common deformities are found in the lower extremities. In the upper portion, luxation of the hip joint is of the greatest importance. It is much more common in girls than in boys, and may be either single or double. In this condition the acetabulum is flattened and the femoral head is distorted. The dislocation is, in the vast majority of cases, upwards and backwards, the head of the femora lying on the ilium, well posterior to and on a line with the anterior superior spine. Usually diagnosis is not made until the child begins to walk, but by close observation the condition can be distinguished at a much earlier time.

The diagnostic feature of single dislocation consists in shortening of the affected leg, prominence of the trochanter above and behind its normal position, widening of the perineum on the affected side, and absence of limitation of hip motion and of pain. In double dislocation the symptoms are the same, except that there is no difference in the length of the legs. After the child begins to walk the additional signs of marked but painless limp in the case of single

dislocation, and the peculiar waddling, ducklike gait with lumbar lordosis, in double dislocation, are of diagnostic importance. The absolute diagnosis can be made by x-ray.

Practically all orthopedic textbooks state that the most favorable time for treatment is at the end of the second year, and that reduction is usually impossible after the seventh year. I believe most strongly that whenever possible reduction should be done before weight-bearing begins. In this period the dislocation is not severe, the soft parts have not become thickened and inelastic, and reposition of the femur in the acetabulum can be obtained without injury to the growing femoral head. Although the aftercare of these very young patients is much more difficult, yet the advantages to be obtained by early reduction far outweigh these difficulties. In small children the dislocation can usually be reduced easily. From five years of age onwards, reduction becomes more and more difficult, and after seven years of age reduction is often impossible, either by manipulation or by open operation.

In recent years there has been considerable discussion as to the best methods of replacement. Various forms of manipulation have had their advocates. Reduction by open operation has been strongly urged by many writers, but from this controversy certain outstanding facts persist. Manipulation, skillfully done by any of the recognized methods, is the best form of treatment for the younger patients, and should be tried in practically all cases. Open operation should be used when manipulation is unsuccessful. In these open operations the femoral head should be placed in the acetabulum whenever possible, and when reposition is impossible, a false socket should be made above and on the perpendicular plane with the acetabulum. All these cases need prolonged aftertreatment in a plaster cast, which again must be followed by massage and manipulation to restore muscle strength and joint motion. A year of treatment is usually necessary before the final result is obtained. With this type of treatment good functional results are reasonably certain if the case is recognized in the very early years of life. In the older cases some improvement of function is the best that may be hoped for.

The last, and by far the most frequent, of all the congenital deformities is clubfoot. By this is meant the permanent abnormal position of the foot which cannot be brought to the normal position. By far the most common type is talipes equinovarus. In this condition the anterior part of the foot is dislocated inwards, the sole of the foot is turned inwards, and the toes are pointed downwards. The deformity is caused by some intrauterine malformation and is often hereditary. It is primarily a contraction of the soft parts of the foot, but if the condition persists and the child is allowed to walk in the deformed position, marked bony changes rapidly occur. The persistent and uncorrectable deflection of the foot makes diagnosis easy.

Treatment of this condition gives good results only when it is instituted immediately after birth and persisted in until all tendency to relapse has been overcome. If the deformity is not corrected before weight-bearing begins, bony changes are certain to occur, and having occurred, full restoration of function is impossible, although a very useful walking foot can be obtained in old and severe cases.

There are five main forms of treatment that are useful in overcoming this defect—manipulation, correction by plaster cast, tenotomies, tarsectomies, and braces. Manipulation should be begun as soon as possible after birth, and numerous daily attempts to evert, abduct, and dorsally flex the foot should be made by the nurse or mother. A retaining dressing of adhesive plaster is useful to assist the manipulative correction, but should be used with the greatest care to avoid skin irritation and restriction of circulation. This type of treatment can be persisted in for six or nine months. After this age, forcible stretching, with or without anesthesia, with the application of a corrective plaster cast extending from the toes to above the flexed knee, is the next type of treatment available. In the more stubborn cases, tenotomy of the tendo achillis and of the plantar fascia may be added to the forcible stretching. It is absolutely essential that overcorrection of all deformity should be obtained before weight-bearing begins.

In the older cases in which weight-bearing has occurred and bony changes have taken place, the above procedures may be tried. If unsuccessful, the removal of sufficient bone from the anterior part of the astragalus and os calcis, with fusion of the subastragalar joints, will make the overcorrection of the deformity possible. After these methods have overcome the defect, a light brace to prevent recurrence should be used for many months. The tendency to recurrence is always great and should be carefully watched for several years.

Only the more important congenital deformities have been described, the purpose being to emphasize the necessary early diagnosis and immediate adequate treatment. Taken as a group, it may be said that perfect functional results can be obtained in practically all cases com-

ing for treatment in the first year of life, and that from then on the number of successes rapidly diminish, and the difficulty and severity of treatment rapidly increase. Orthopedic surgeons appreciate the coöperation of other physicians in giving these patients their chance for perfect functional cure—a chance which is so quickly lost if treatment is delayed.

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THE DIAGNOSIS AND TREATMENT OF SURGICAL TUBERCULOSIS IN EARLY CHILDHOOD

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Tuberculosis is an insidious chronic disease. Surgical tuberculosis is a localized process of a hidden, deep-rooted condition. As Gridlestone[1] so aptly says, "spinal caries shouts for recognition; deep-seated lymphatic tuberculosis takes no steps to call attention to itself. A grumbling focus in a mediastinal lymph gland does not seek publicity, while hip disease advertises with limp and pain, night cries, and muscular rigidity, and a tuberculous knee is painful, swollen, and hot to the hand."

The tubercle bacillus belongs to the chronic class. Its portal of entry appears to be oftenest by way of the respiratory tract, chiefly in early life, although the alimentary tract is a close second. As in any infection, the balance between the invading organism and the host must always be in favor of the former before an actual disease state can be developed. This means that not only must the host or subject be susceptible, but also that a sufficient number of organisms of a certain degree of virulence must be introduced, these factors varying with the resistance or susceptibility of the host.

According to the experimental work of Eastwood and Griffith,[2] the virulence of the tubercle bacillus is always constant. Once a tuberculous process has been set up, it may remain localized and quiescent, or it may give rise to local or general lesions. Most bone tuberculosis (aside from bone involvement by direct extension) is the result of dissemination by the blood stream of organisms from preëxisting foci. The constant finding of obsolete lesions of small size in the various organs shows that this is a common occurrence. The development of tuberculous infections of bone is, therefore, essentially like the development of acute suppurative osteomyelitis. The blood supply of long bones is obtained by means of a central artery which divides into two branches, generally a large and a small branch.

Fig. 1. T. M., male. Perthes-Legg's disease; showing flattened head and thickened neck of the femur.

Fig. 2. T. D., aged 8 years. Congenital syphilis; showing proliferation of patella, femur, and tibia in both knees.

These travel to the epiphysis and end in terminal capillaries. The articular cartilage and capsule are supplied by vessels which penetrate the joint at the attachment of the ligaments. Given trauma at a certain epiphysis or at the articular process, causing a hemorrhage and subsequent clot (an area of lessened resistance), an infection with tubercle bacillæ, together with a child under par, and the stage is set for tubercle formation.

The cancellous bone of the epiphysis is commonly first involved. Most joint tuberculosis is the result of extension from a tuberculous process in one of the bones. To deny the possibility of synovial tuberculosis is not reasonable, as the mechanism is the same in both bone and synovia. I believe the location of trauma decides which it shall be.

Diagnosis

Since surgical tuberculosis is only a part of a general disease, the case history is one of the important steps in diagnosis. This should include the family history, housing conditions, food and milk supplies, previous diseases (especially measles), and any trauma. Growing children are always falling, but very often there is a history of some severe fall. The record, therefore, should include the activities of the child. Does he play around like other children? Has his general condition been poor? Does he sleep well or is he restless, and does he moan at night? Does he tire easily? It should be borne in mind that tuberculosis is a chronic disease. The mother will often report that the child will sometimes limp, that in the morning he is stiff, but after moving round this stiffness wears away.

Pain. I should like to emphasize that pain in surgical tuberculosis is a variable quantity. It is intermittent, referred, and generally not commensurate with the degree of pathology present. A girl of fourteen came for examination of a knee joint, not on account of pain but because of a swelling which had existed for more than a year. The x-ray showed a cyst of the top of the tibia which had extended into the knee joint posteriorly and to the inner side of the joint. The whole joint was involved, including the synovial membrane and pouches. Across the middle portion of the external condyle the cartilage had been eroded—an area about a half-inch in width. The pathologic diagnosis was tuberculosis; yet she never complained of pain.

Attitude, Posture, and Gait. Reflex muscular spasm is the most important sign in disease of any joint. According to Whitman,[3] it is present from the very beginning and until long after the process is healed. In spinal tuberculosis the posture is one of overerectness, the muscles holding the joint to prevent anterior weight-bearing. In cervical Pott's disease, the child will hold its head in its hands. In lumbar or dorsal Pott's disease it will sit on its hands. In lumbar Pott's disease the child stands with an increased lumbar lordosis, and will not bend the lower spine in picking up an object from the floor. In hip-joint disease there is a characteristic limp, with the limb held in flexion and abduction. In knee-joint disease there is flexion of the knee, with the patient walking on his toes.

Fig. 3. N. C., male, aged 18 months. Early tuberculosis of left os calcis of three months' duration, with swelling and difficulty in walking. The guinea-pig test was positive.

Pathologic Investigations. These include (1) Examination of aspirated fluid by microscope, culture, and animal inoculation. (2) Skin tests. The von Pirquet reaction in young children is always helpful, and a negative reaction (except in very malignant cases) is proof positive. (3) Excising of tissues. In joints that have not broken down, this is a diagnostic process which I think should be severely condemned. (4) Differential blood count, which generally shows a lymphocytosis. (5) Wassermann test.

Fig. 4. L. deL., female, aged 5 years. This child had had pain in the right knee for two months, with slight swelling. There was slight subluxation of the head of the tibia. The x-ray was negative, and the von Pirquet positive.

Clinical Progress. This is a great aid in diagnosis. The ordinary case of transient arthritis will clear up under early efficient treatment. Tuberculosis, being a chronic infection, is more resistant.

Radiography. In very early tuberculosis the x-ray may give no assistance, but the typical findings are those seen in any joint that is not used—(1) the absorption of lime salts, giving a ground-glass appearance; (2) atrophy of the part; (3) erosion; (4) distention of the joint, with infiltration of the capsule and ligamentous tissues; (5) in old cases, especially in the malignant type, proliferation and periostitis, simulating the picture seen in syphilis.

Fig. 5. R. D., male, aged 2½ years. Tuberculosis of the second and third lumbar spines, with absorption of the lower border of the second and upper two-thirds of the third. A lump was first noticed on the lower spine at four months of age. There was a history of a fall at fourteen months. X-ray taken December 30, 1926.

Differential Diagnosis

Transient Arthritis. This comes on suddenly, and is usually associated with some intercurrent affection, such as an abscessed tooth or tonsillitis, or some gastro-intestinal disturbance. It disappears under appropriate treatment.

Rheumatism. Rheumatism in joints is very rare, and such a diagnosis should be avoided like a rattlesnake. They are both dangerous. It is rarely, if ever, monarticular, involves a number of joints, and is accompanied by high fever and great pain and tenderness. The pain of a tuberculous joint, especially a hip joint referred to the inner side of the knee, is intermittent and seldom severe.

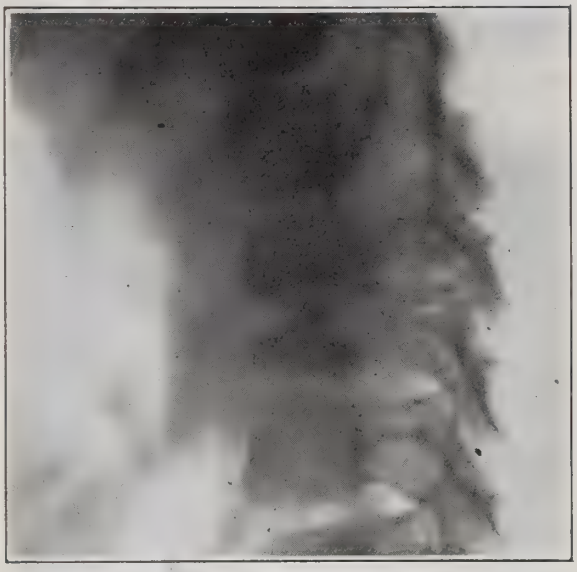

Fig. 6. R. D., September 15, 1927, after treatment on a frame. Showing calcification and growth of the bodies. The child is able to move about on the frame.

Arthritis Deformans Juvenilis—Perthes-Legg's Disease. As a rule, the limitation of motion is mechanical and not due to muscle spasm; that is, limitation in abduction and internal rotation. There is a flattening of the epiphysis and a thickening of the neck.

Acute Epiphysitis. This is characterized by sudden onset, high fever, tenderness, great pain, and very soon swelling and redness. The x-ray is nearly always negative.

Syphilis. The process begins in the epiphyseal end of the diaphysis or in the shaft, while in tuberculosis it begins in the epiphysis. There is marked periosteal thickening in syphilis, while there is little or none in tuberculosis. In syphilis there is hypertrophy; in tuberculosis, atrophy.

Fig. 7. E. K., male. High dorsal Pott's disease; showing the characteristic attitude, supporting the limbs with the hands.

Fig. 9. E. K. The patient, up in a brace, after fourteen months on the frame.

Fig. 8. E. K. Showing the frame treatment.

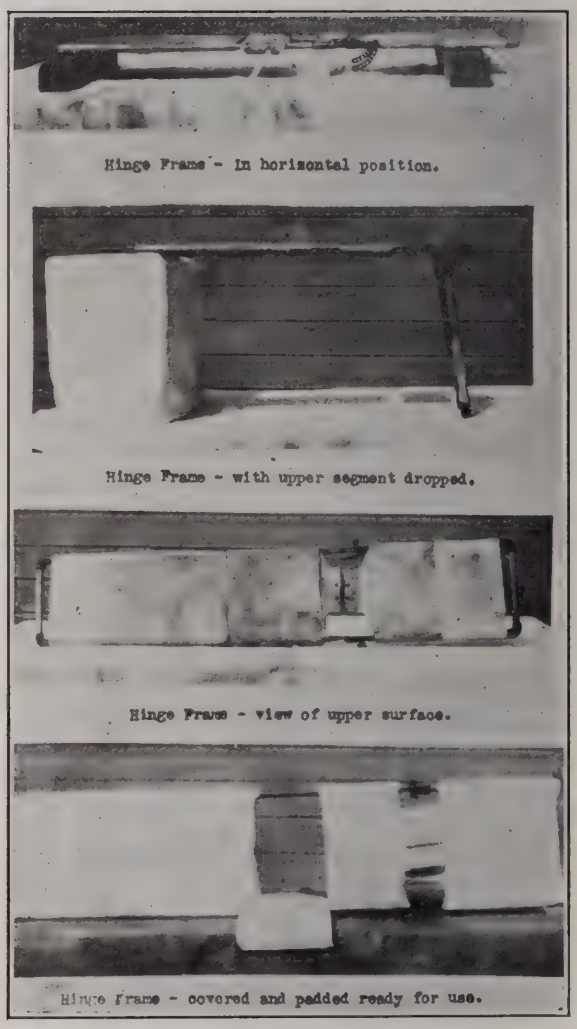

Fig. 10. Different views of the author's frame used in treatment of surgical tuberculosis

In syphilis there is bone proliferation; in tuberculosis, bone destruction. In syphilis the swelling is due to thickening of bone; in tuberculosis, to thickening of the soft parts. In syphilis, suppurative sinuses are rare, while in tuberculosis they are not uncommon. In syphilis multiple lesions are common; in tuberculosis they are rare.

TREATMENT

In children the length of time is of no consequence, but it is all important in treatment. Treatment is applied not alone to the surgical focus, but to the entire body. No one has been able to produce an immunization against tuberculosis, according to Zinsser.[4] Krause[5] points

out, from his experiments on animals with tuberculosis, that there is a definite ability to "fix" the bacillus in the tissues. He regards this as a specific immune reaction produced only by infection with the tubercle bacillus, and that it represents an allergy or allergic state. Animal or human beings who are in this state of allergy have a favorable reaction to reinfection, quickly checking the spread of the disease.

Fatigue, infections, anemia, or anything producing shocking reactions reduce this allergic state; therefore, the problem in treatment is to raise the individual's resistance to tuberculosis. There should be no half-way measures. The modern cry in hospitals for a quick turnover of patients is a deplorable condition. Patients are not cured, but are sent out in an improved state, back to the same conditions at home which brought on the disease.

The essentials in the treatment of tuberculosis are: appropriate fixation, good food, open air, correct posture, and sufficient time. I am a great believer in appropriate fixation. In inflammatory stages of the disease absolute rest of the part is vitally demanded. The old method of turning spinal cases off a frame daily and moving hip-joint patients to bathe them and readjust the frame does damage to the part. I have devised a frame which has a hinge arrangement that turns down like the end gate of a wagon. Instead of the canvas cover, which has to be laced every day, a heavy zine tin plate covers the frame. The child is tied to the bottom of the frame. The pads of felt are attached to the frame at the joint. The lower part of the frame is always kept parallel to the bed. By adjusting the thumbscrews the frame can be bent, producing hyperextension. The child is not moved off this frame once in three months. Covers are slipped over the frame about once a week. The child's back is cleansed daily by an alcohol rub, with practically no movement. On the frame there is a widening of the intercostal angle, allowing the widest expanse of the lungs, and hence better and easier breathing. The digestive organs are relaxed and brought up into proper position, allowing better digestion.

Gridlestone,[1] in his excellent article on modern treatment of tuberculosis (I should recommend every one to read it), says that in heliotherapy three distinct factors are at work—the sun, the wind, and the skin. There is not sufficient time to go into details, but there is no question in my mind that open-air treatment is the greatest adjunct in treatment. The patients should be out in the open air even if the sun is not shining.

When should frame treatment be discontinued? When a nurse tells me it is becoming difficult to keep a patient still on the frame, and that he is raising his body up off the frame or moving a joint, I order another x-ray, because I know it will show the redeposition of lime salts. The joint is healing or he would not use it. Then I consider ambulatory treatment. In early cases, when it is impossible to hospitalize a patient, I never put on a bivalved cast, for the taking off and putting on of these casts disturbs the healing, no matter how carefully it is done.

There is seldom any place for surgical interference in bone or joint tuberculosis in the young. The argument that it is a timesaver is deceptive. Gridlestone's expression that it is like pulling off the head of a deep-rooted weed might be aptly applied to surgery. Surgical operations for fixation of the spine are shocking, even in the most expert hands, and hence disturb the allergic state.

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PREVENTION AND CORRECTION OF DEFORMITY IN THE TREATMENT OF INFANTILE PARALYSIS

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The diagnosis and medical treatment of infantile paralysis in the acute stages belong to the art of internal medicine. Yet, because there are many mechanical measures which lessen the pain, increase the comfort of the patient, lessen the damage to nerve and muscle tissue, and shorten the acute stages, it is imperative to have the coöperation of one who has special knowledge and experience in the adaptation of such mechanical principles.

The course of the disease in stages, even in typical cases, varies so widely in time and intensity, and there is often such overlapping of symptoms that it is difficult to draw borderlines between them. There are distinct phases in all cases: (1) the acute—to the point of greatest intensity; (2) the subacute—to the subsidence of the febrile manifestations; (3) the convalescent—extending over a long period of time, during which motor impulses find a way over

damaged tracts, muscle cells regenerate, and muscle cells which have temporarily been shorn of nerve impulses awaken; and (4) permanent disability and deformity. Treatment should be adopted in accordance with the symptoms of the different phases, and never inopportunely. The appearance of paralysis varies widely in the first two phases, and there is a direct ratio between the severity of attack and the time of the advent of the palsy.

The term "meningomyelopolioencephalitis" outlines the pathology in the nervous system, and points with emphasis to the structures outside of the spinal anterior cornua which often escape the medical vision. A full conception of the pathology and process of the disease insures greater conservation of nervous tissue.

A discussion of the symptomatology of this disease in the first two phases is not within the province of this paper, but as it is the aim of all concerned to bring the patient through in the best possible condition, certain symptoms are emphasized to encourage the use of all measures to insure the best result.

The portals of invasion undoubtedly are chiefly the intestinal and oral tracts. Symptoms such as diarrhea, constipation, headache, general pains, respiratory and circulatory changes, stiffness in the nucha, psychic phenomena, etc., by virtue of the degree of their intensity are an index to the severity of the attack, but cannot measure the extent or severity of destruction of nerve tissue. Sensory symptoms are usually most acute in the muscles to be paralyzed.

In any degree of severity, measures which lessen toxemia and pressure minimize the damage to the nervous tissue. Toxemia can be decreased by diaphoresis, diuretics, administration of fluids to dilute the toxin, colonic lavage, etc., but the intestinal mucosa should not be irritated in any way. Pressure on the central and spinal structures can be minimized by lumbar puncture repeated often enough to keep the tension of the spinal fluid at 8 to 10 mm. Convalescent and antistreptococcic serums may have even a greater value than is now attributed to them. They do no harm when properly administered, and even slight decrease in damage warrants their use.

The most favorable conditions should be created for the patient during the acute phases. The nervous system should never be shocked in any way, and complete rest should be maintained to the end of the second phase. The increasing knowledge and skill in the treatment of this disease during the acute stages give assurance that in the very near future we shall not find the profoundly deformed and crippled paralytics seen now. A certain amount of handling of the patient is necessary, which causes severe pain, and often serious damage. The effort to resist the handling and lessen the pain of movement causes function in affected nervous and muscle tissues which intensifies the pathologic process and increases the damage. The patient should be placed in a position of physiologic rest, and such position changed and varied as comfort demands. Muscles should never be stretched or allowed to act sufficiently to cause fatigue. Moreover, paralyzed muscles should be relieved of all tension. By means of soft pads, pillows, rolls, bandages, splints, etc., the varied positions of physiologic rest can be employed with great benefit and comfort to the patient. A properly constructed Bradford frame with double cover can be so adapted as to minimize movement in the care of the patient, especially in the use of the bedpan.

In the presence of pain in muscles, joints, etc., massage and passive motion should not be used. Effleurage, stroking, and friction not heavy enough to cause pain are beneficial. Electricity causing muscle contracture should never be employed when tenderness is present or when it is a nervous shock to the patient. We can say but little at present of the use of the actinic ray as a therapeutic measure in the acute stages.

During convalescence every means should be employed to improve the general condition. Medical measures to increase metabolism and promote good nourishment are essential. Sunshine, fresh air, massage increased as per toleration, and function are measures to be employed, not only with wisdom but understanding. Function, when possible even in the slightest degree, is by far the most valuable of all measures in the rehabilitation of damaged muscles. The nerve and muscle tissues are not only stimulated, but a psychic uplift is always produced.

There has been wide discussion pro and con of the use of electricity in the convalescent and final stages. If it helps to awaken latent muscle energy, it has a decided value. Wide experience has convinced many that it has no important value. Muscle cells deprived of motor impulses will never function. An excellent criterion is: never squander hope, time, energy, and money on useless theraputics.

Braces should be used just as soon as needed to promote function and good posture. They should be employed with greatest efficiency so long as they are indicated, both before and in conjunction with surgery.

All surgery should be deferred to the final phase, if possible, and as late in it as is expedient, until the osseous development is nearly

complete and until the muscle tissue which escaped, and especially that which was damaged, has recovered to the fullest degree. Scattered areas of muscle cells in a damaged muscle hypertrophy, and late in the permanent phase restore a large percentage of the function of such muscle, changing entirely the surgical and mechanical problems. How unwise it is to do premature surgery in such cases! Too often has it been responsible for the sacrifice of tissue by misemployment and destruction. Simple tenotomies may be desirable in certain early conditions, but as a rule tenoplasties are preferable, because rapid and often a high degree of muscle atrophy follows a simple tenotomy.

A muscle shorn of its tension of repose atrophies rapidly. If proper supports are used from the beginning, contractures will be reduced to a minimum. Physiotherapy properly administered is a most important adjunct, and should always be employed wisely.

Surgeons with adequate experience are convinced that it is futile to try to restore good posture in certain structures by the readaptation of tendons, fascia, etc., and have proved that stabilization by osteo-arthroplasty is the operation of choice. Again we stress the wisdom of deferring surgery until the structures are ready for it. It is more essential in bones and joints than in other structures to postpone operation until osseous development is far advanced. In this disease there is always bone atrophy; therefore, delay is imperative. Stabilization by osteo-arthroplasty should not be done before the age of ten to twelve, or better, twelve to fourteen.

Neuroplasty has a doubtful value in the restoration of muscle function. The robbing of the normal muscle to give doubtful nerve energy to the abnormal is not warranted. Accurate credit cannot be given on the benefit side of the account, even after due allowances have been made in tabulated results.

A significant case is here cited to emphasize the tragedies of neglected paralysis. A child paralyzed at the age of two and a half years, "sat on his legs" for eighteen years. Body and arm postures were vicious. The most extreme and unbelievable deformities resulted. After five years of surgery and other restorative measures, he is able to walk with the help of braces and a stick. Three fourths of his deformity and as much of the surgery could have been prevented. Let the doctrine of prevention be proclaimed throughout the medical world. He who prevents a medical or surgical tragedy renders a greater service than does one who, with the highest degree of skill, gives all that is possible of restoration. Yet what matters the expenditure of years and any amount of energy when helplessness can be replaced by even a small percentage of independence?

A true orthopedic temperament must underlie an adequate surgical and mechanical skill to insure the best results. To quote from Dr. Crothers, of Boston, "The good orthopedist is an incorrigible optimist. He has also, by bitter experience, learned to be content with the best that can be done. If a patient can be taken from a bed and placed in a wheel chair, that is good. If he can be put upon his feet, even one foot, that is likewise good. If by any means he can be rendered independent in his travels, the orthopedist has established a satisfactory status."

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ABSTRACT OF DISCUSSION

Of Symposium on Orthopedic Surgery

John L. Atlee, M.D. (Philadelphia, Pa.): I would request Dr. Wallace to elaborate, in his closing remarks, on the use of surgical fixation in tuberculous spine.

DeForest P. Willard, M.D. (Philadelphia, Pa.): I want to emphasize again that early diagnosis in orthopedics is absolutely essential. We cannot possibly secure results unless we see the children early. They go to the general practitioner first, and we must depend upon him alone to see that these cases are diagnosed and brought to treatment.

The last seven patients with congenital dislocation of the hip that applied to one hospital in Philadelphia—patients who came from outside the city limits—were all over seven years of age, the oldest being twelve. Of these seven patients, five had been examined by physicians during the first two or three years of life. In some cases the condition had been diagnosed and the parents were told that treatment was useless. In others, no diagnosis was made. Out of these seven, five could have been given good functional hips. At the age they came, the best we could hope for was some improvement in locomotion.

William J. Merrill, M.D. (Philadelphia, Pa.): There are two types of congenital dislocation of the hip existing at birth; one is the actual and the other is the potential. True congenital dislocation is due to faulty development of the bones of the hip, especially the acetabulum, the defect arising in the embryonal stage. The nature of the first type is understood by those having considerable experience with it, but the conditions of the second type are different. The space between the head of the bone and the bottom of the acetabulum is markedly increased. The roof is shallow and its angle is increased upward. The head of the bone hangs on the outer upper border of the roof and is dislocated by slight weight-bearing or even the muscle pull. The height of the trochanters should always be ascertained soon after birth. If there is any difference, or if the tips of the trochanters are higher than they should be, an x-ray should be made to determine the condition. The potential type should be treated exactly as the actual.

James O. Wallace, M.D. (Pittsburgh, Pa.): I have not fixed the spine in young children in the last ten years because I believe it is deceptive. Albee, and I believe Hibbs, do not correct the spine before it fuses.

Benefit occurs in these cases by the anterior surface of a good body coming down and resting on the superior surface of the good body below. When these two bodies are in apposition, a cure takes place. I have always tried to correct the deformities. After doing this in one case, when the nurse was preparing the child for operation, in turning him she produced a true spinal convulsion. We had some other cases which were followed by meningitis shortly after the operation. In discussing these with Dr. Klotz, who was then at the University of Pittsburgh, I said, "Isn't it possible that we are stirring up new pathology by correcting the deformity? Why not send such patients to a fresh-air home until the process of healing takes place, and then do bone grafts?" We sent the children to fresh-air homes, and they did so well we did not think it necessary to fuse them.

In regard to fixation, some orthopedists continue the frame treatment as long as eighteen to twenty months. The x-ray picture may show that the bodies are absolutely gone, but after a child is put on the frame, within a very short time there will be redeposition of lime salt. The framework has not been destroyed, and by taking off pressure, redeposition of life salts results.

DR. ATLEE: Do I understand you do not fuse?

DR. WALLACE: Not any more in children.

Symposium on Urinary Lithiasis*

ETIOLOGY OF URINARY CALCULI

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Urinary calculi are commonly made up of the following substances: uric acid, urates, calcium oxalate, calcium phosphate, calcium carbonate, ammonium magnesium phosphate, cystin, and xanthin. All of these are insoluble in water and urine, even within the ranges of their acidity and alkalinity. Crystals of all the above substances are often found in urine of normal persons. They are generally isolated, single and not fused, conforming to the crystallography of the individual substances.

One of three things happens to these several substances. They are either held in solution, deposit a fine sediment, or form calculi. Schäde[1] has shown that these various states of composition are brought about by the presence in the urine of substances known as colloids. These are of two different types—crystalloids and true colloids. The first group is normally soluble in water in a molecular solution, or, if ionized, may exist suspended in very small particles which are always larger than a molecule. In this state, the crystalloid is said to be in "colloidal suspension." This is due to outside influences, and is not inherent in the solution itself. The second group is always present in the solution in a state of "colloidal suspension" and never ionizes or goes into molecular solution. This may be altered by outside influences, but is not dependent upon them.

Ebstein and Nicolaier[2] were the first to produce calculi in the urinary tract of animals by feeding oxamid, a derivative of oxalic acid. These writers concluded that the inflammatory reaction in the kidneys "resulted in the precipitation of urinary salts in the matrix furnished by the exudate, and thus in some obscure way stone had its genesis." Later it was shown by Ord[3] and others that colloids *in vitro* modify the shapes of crystals, giving rise to widely different forms. Certain substances, as calcium oxalate and calcium carbonate, are precipitated from aqueous and colloidal solution in widely varying forms.

Ord found, especially with calcium oxalate, that he could trace a number of morphologically related forms which varied consistently according to the amount of colloid and salt present. He further noted that certain of these crystals tended to remain isolated, while others, especially the spheroidal forms, tended to fuse. He distinguished these as the coalescent and noncoalescent forms.

More recently, Keyser[4] has studied experimental production of calculi by feeding oxamid to animals. He recovered this substance in the animals' urine, but in an entirely different crystalline form than the one given originally. These latter crystals were of the coalescent variety, this fusion leading to calculus formation.

Keyser concludes that the colloids in the urine bear a very definite relation to the changes which take place in the crystalline morphology. He says that calculus formation may be due to three different factors: (1) the excretion of an excessive quantity of crystalline material beyond the power of the colloids to maintain either solution or deposition of isolated noncoalescent crystals; (2) an insufficient amount of protective colloid; and (3) the precipitation of normal colloids or the lowering of their protective activities by bacterial exudates, or by foreign colloidal matter formed as the result of abnormal metabolism.

By a series of experiments this observer showed that calculi were formed in the urinary tract by producing the condition mentioned in group 1. Under group 2 he was unable to produce calculi with his experiments, but German investigators, viz., Lichtwitz and Schäde, have shown that when colloidal matter is removed from the urine *in vitro*, a precipitation of phosphates or calcium oxalate uniformly results. These experiments are extremely suggestive of the colloidal theory in calculus formation.

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In support of the third proposition, that bacterial exudates either precipitate colloids or lower their protective activity, we have a reasonable amount of evidence. Sodium oxalate was fed to animals, and the typical octahedral crystals were found in the urine. The kidneys were then directly infected with attenuated B. coli, and the type of crystal was changed to the spheroidal coalescent variety. Further fusion of these crystals was noted in several instances, with the formation of small concretions. Rosenow and Meisser[5] have shown that they could produce urinary calculi in dogs when streptococci from the urine of patients with multiple recurrent calculi were injected into the devitalized teeth of the animals. This they did quite consistently. In this instance we can reasonably assume that the bacteria had a specific elective activity upon the renal tubules, producing a low-grade inflammation. This causes an increase in the abnormal colloidal matter, thus disturbing the normal colloidal content, so that its solvent power is not sufficient to prevent the deposition of coalescent crystals which are the precursors of calculi.

Ureteral strictures[6] are many times accompanied by renal calculi. Strictures cause inflammatory changes in kidney pelves and parenchyma, lowering resistance with a hematogenous infection, possibly caused from some focus in other parts of the body. This inflammation disturbs the colloidal balance, resulting in the formation of the coalescent type of crystals.

Until further clinical investigations are made, in combination with original studies, the practical application of our knowledge of the formation of urinary calculi will not be possible.

Summary

(1) Urinary calculi are commonly made up of certain substances which are insoluble in water and urine. Crystals of these substances are found in normal urines, but are generally isolated and single.

(2) These several substances are either held in solution, deposit a fine sediment, or form calculi. These phenomena are brought about by the presence or absence of substances known as colloids.

(3) The absence of colloids in the urine is brought about by certain pathologic conditions within the kidney, due either to local disease or to outside influences reacting upon the kidney.

(4) Further clinical investigation is required in order that these theories can be put into practical application.

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THE DIAGNOSIS OF URINARY CALCULI

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In arriving at a diagnosis of urinary calculi, it is particularly fortunate that the urinary tract is entirely accessible, and today the implements of diagnosis are on a high plane of perfection. By means of the cystoscope and endoscope it is possible to see calculi lodged in the urethra, bladder, and ureteral orifices, and with the aid of these instruments plus the shadowgraph catheter, the Bucky-Potter diaphragm, and one of the shadow-casting media, calculi can be demonstrated in the upper urinary tract with great exactness.

Stones may be present in the urinary tract with or without symptoms, and the existence of typical symptoms does not prove that a stone is present, but may be regarded as presumptive evidence which would warrant thorough urologic investigation.

In a differential diagnosis of stone in the upper urinary tract, the various abdominal lesions producing pain of a colicky nature must be considered. No doubt the greatest source of error occurs in cases in which the stones are on the right side, as symptoms on this side may indicate appendicitis, lesions of the female pelvic organs, and gall-bladder disease.

In the presence of confusing symptoms one of the greatest sources of help is a careful urinalysis. In almost every case of suspected stone in the upper urinary tract, it should be possible, on careful examination, to find a few red blood cells or pus cells in the urine. The presence of these certainly indicates mucous-membrane irritation, and should more than ever justify urging thorough urologic study of the case.

Before subjecting the patient to a complete

urologic examination, especially when the x-ray is to be used, it is most important to have the intestinal tract as free from gas and feces as possible, for the presence of these may completely ruin the x-ray results.

With the patient prepared, the examination may proceed. The cystoscope is introduced and the bladder washed and filled with a clear, sterile solution, so that a careful inspection of its interior can be made. In dealing with the upper tract, the ureteral orifices are first carefully inspected for stone, as many times they pass to this point, where they are arrested in their progress and can be seen jutting from the opening. If no stone is seen the shadowgraph catheter is then introduced into the ureteral orifice and passed up the ureter. In so doing, the catheter may be arrested in its passage, beyond which point it may or may not be able to be passed. If possible, it is best to pass the catheter on into the kidney pelvis.

With the catheter in place, the most positive part of the diagnosis follows—the use of the x-ray. By this means stone shadows should be detected in from 85 to 90 per cent of the cases, but demonstrating a shadow is not necessarily demonstrating a stone, and in diagnosing a calculus it must be certain that the shadow seen is within the lumen of the ureter and in contact with the catheter. The x-ray plate should include both kidneys and both ureters in order that stones in the kidneys may not be overlooked. Shadows which may show in the plates and which are outside the upper urinary tract are phleboliths, calcified mesenteric glands, and fecaliths.

The usual procedure is to make one exposure with the catheter in place, and this plate is developed immediately, before the catheter is withdrawn. If it shows a suspicious shadow definitely not overlying nor in contact with the shadow of the catheter, it is certain that this is not a ureteral calculus. If, however, the shadow does touch or overlie the catheter shadow at any point, there will still remain a question as to whether it is a calculus within the ureter or merely a phlebolith or gland which happened to be in line with the catheter and tube target, but which is in fact either behind or in front of the ureter.

The procedure of making a double exposure on the same plate without changing the position of the plate or the patient, but by a change in the tube, is of great value in some cases. If the shadow under discussion and the shadowgraph catheter lie within the ureter, that is, in the same body plane, they will both move in the same direction, remain in contact with each other, and will be seen in contact on the plate. If they do not lie in the same body plane, an interval results between the shadowgraph catheter and the shadow. In some cases it may be advisable to take stereoscopic plates in order to reduce the error of localization.

In that percentage of cases in which a stone cannot be demonstrated or its localization made certain, the wax-tipped catheter lends invaluable assistance. By this means it is often possible to obtain scratches on the wax from the stone and thus determine its presence. Care must be taken though, to avoid scratching the wax in passing the catheter through the cystoscope.

Finally, when necessary, pyelograms or ureteropyelograms should be made. This is of special importance in some cases in order to determine the presence and location of a stone in the renal pelvis, especially when operation is to be carried out. One is thus able to see the relation of the stone to the renal pelvis and to judge roughly the type of operation necessary to remove it. A stone which casts no shadow may appear in the pyelogram as a clear translucent area in the pelvic shadow.

For the diagnosis of stone in the bladder cystoscopy and the x-ray can be relied upon. The physician should not depend upon symptoms alone to prompt a search for stone in the bladder, but should look for them in all bladder conditions in which the use of the cystoscope is indicated. The cystoscope usually discloses the calculi and permits determination of the size and number of them as well as any associated pathologic conditions.

The x-ray is of value in disclosing calculi which may be hidden behind a hypertrophied trigone, or in a diverticulum, or enveloped in masses of pus or blood. In some cases it may be advisable to use a metal stone searcher which can be felt to click or grate against the stone.

The entrance of a calculus into the urethra is characterized by the sudden onset of difficulty in voiding or complete retention. The diagnosis offers no special difficulty, as calculi can usually be palpated upon examination of the genitals or by rectal examination. They may be felt with a sound or seen with the endoscope, or, when necessary, the x-ray may show their size and location.

Summarizing, then, we may say that urinary calculi should be looked for in all conditions requiring urologic study, regardless of symptoms, and that by the intelligent and careful use of the means and methods now available, urinary calculi should be diagnosed in almost every case in which they exist.

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RAPIDITY OF GROWTH OF URINARY CALCULI

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It seems strange how little is known concerning the etiology of calculi. Recognized from the dawn of medical history, and probably the oldest surgical operation purposely undertaken (in which injury or accident played no part), it today continues to play a leading rôle in urologic surgery, taking its quota of lethal consequences, demanding surgery for its relief, and so far refusing to deliver the secret whereby its prevention may be accomplished. Diagnosis has been refined by x-ray, cystoscopy, and functional tests. Operative prognosis has been bettered by surgical technic, instrumental developments, and pre- and postoperative treatment; but still the question continually arises, "What shall I do to keep from having another?"

Three theories regarding the cause of stone formation hold attention today. The first is the action of specific bacteria. These have long been incriminated, though some physicians have felt that the usual concomitant infection of calculus disease was a secondary effect and not a primary cause and that the theorem, as a *post hoc propter hoc* argument, was a fallacy. The work of Rosenau with specific streptococci again turns attention to this etiology, though he does not fail to point out the more general effects of infection which may also play a part.

The second theory is based on the interesting original work of Lichtwitz, further elaborated by Keyser and by Spitzer and Hillkowitz, on the part played by colloidal chemistry. They start with the facts that calculi result from an abnormal type of crystalline precipitation; that normal urine holds water-insoluble crystalloids in solution because of the presence of protective colloids; that hydrogen-ion concentration affects this solution; and that the colloidal matter in solution modifies the morphology of crystalline precipitates, sometimes changing them from a noncoalescent to a coalescent type.

Based on these factors, Keyser produced calculi by disturbing the urinary colloidal balance, and he concludes that this disturbance may be due to quantitative changes in the colloids normally present, or to the entrance of abnormal colloids into the urine, either from the blood stream or as the products of local renal disease. The latter origin seems most likely, for it is known that pus and bacterial exudates are the common sources of pathologic colloidal material in the urine. This makes it seem probable that these constitute the factors by which the normal urinary precipitation mechanism is most frequently upset. In this latter observation, a common point of agreement is found between the first, or bacterial, and the second, or colloidal theorem.

The third theory, presented by Osborne, Mendel, and Ferry, and further substantiated by Fujimaki, is the observation of frequent calculus formation in animals fed upon a diet deficient in vitamin A. The calculi consist essentially of the characteristic insoluble phosphates of calcium and magnesium, and the work has been carried further to include their treatment by dietary measures, with the reported successful disappearance of such stones.

These are the three prominent theories of today, no one of which is perfect. The one stumbling block upon which all theories fall is the variation in the chemical composition of urinary calculi, and it will be difficult to conceive of one theory compassing the entire problem. Various studies have shown different results. Urates and uric acid compose the nucleus of renal stones in from 3 per cent of the cases, as reported by Kuster, to 81 per cent as stated by Ultzman. Oxalates are present in ratios from 5 per cent to 66 per cent, according to individual experiences. Every one interested in the problem has seen calculi which on section show crystalline deposits of differing character laid down in succeeding epochs of the stone's formation. Theories accounting for the actual cause of crystalline precipitation, therefore, can be set aside for the moment as not aiding the clinical problem of today, and attention may be concentrated upon the surgical handling of vesical, ureteral, and renal calculi.

Vesical Calculi

Vesical calculi can no longer be considered as primary surgical lesions. They are uniformly secondary formations—secondary to foreign bodies, to vesical obstructions causing residual urine, to vesical diverticulæ, to renal lesions, and to descending stones. The majority of these primary conditions are well recognized, and the only ones that frequently baffle the surgeon are those in which the residual urine is due to median-bar formation and those secondary to spinal-cord lesions. The crux of the situation lies in the absolute necessity (in the presence of vesical calculus) to determine the causal factor, if possible, *before* operation, and to correct the same at operation, making the stone's removal but a step in the operative procedure.

I have seen four cases of recurrent vesical calculi due to diverticulation of the mother stone. In one, the patient presented himself three years

after the removal of three large calculi. He had a nasty alkaline cystitis, and a calculus measuring 6 x 3 x 3 cm. was removed from a diverticulum and a diverticulectomy performed.

The second patient had had two suprapubic lithotomies eight and three years previously, with a third operation for the repair of an incisional hernia. His urinary frequency was every twenty minutes, his posture the knee-chest, and his pain extreme. The x-ray showed two large and many small vesical calculi. Two litholapaxies, followed by an extensive perineal lithotomy, were necessary before the mother stone was recovered, and he has now remained in perfect health for the past three years.

The third patient had a litholapaxy in September, 1925. A complete recurrence was again crushed nineteen months later (April, 1927), and only following this did the x-ray show the mother stone existent in the remnants of a vesicovaginal fistula which had followed a panhysterectomy of seven years previously.

The fourth case I saw while assistant to Dr. H. H. Young. The patient, aged 78 years, had used a catheter for two years. He was operated upon in April, 1908, when a perineal prostatectomy was performed and twelve vesical calculi were removed. His fistula persisted, and in November, 1908 (eight months later), at suprapubic cystotomy four calculi were removed, two of which were in a diverticulum and two in the posterior urethra. Two years later, in February, 1910, a large recurrent calculus was crushed, the patient's age (81 years) being somewhat responsible for this choice of operation. Ten months later, in December, 1910, he returned with symptoms, and again a large stone was present in his bladder. At suprapubic cystotomy, a calculus measuring 5 x 2.5 x 2 cm. was removed, and search revealed a diverticulated mother stone the size of a hazelnut. Following this operation he remained well until his death ten years later at 91 years of age.

Of my cases of prostatic hypertrophy, 17.7 per cent have been complicated by vesical calculi, as have nine per cent of the cases of median bar. These are now well understood, and the only lessons of importance are: (1) complete and clean removal of the obstruction, (2) competent postoperative drainage, and (3) the eradication of infection and permanent acidification of the urine. I am unequivocally opposed to primary bladder closure, for these reasons as much as any.

An interesting example of stone growth is recorded in one of these patients. His acute bladder symptoms started in July, 1924, though three years before, having some urinary symptoms, he took some DeWitt's kidney pills, which evidently contained methylene blue. At operation in April, 1925, two calculi measuring 3 x 2.5 x 1.5 cm. were removed. On section, each appeared to be formed of pure ammonium urate and the laminæ in the calculi's early growth were stained green, showing 2 cm. growth in this interval of three years.

Incomplete prostatic operation, leaving some persistent obstruction that prevents the bladder from completely emptying itself, is a constant invitation to secondary calculus formation. I have three such cases. For instance, a patient was operated upon in Savannah sixteen months before I saw him and had a prostatectomy performed. His fistula took five months to heal. At operation, two calculi were removed and a solitary right-lobe hypertrophy of the prostate measuring 10 x 5 x 5 cm. was enucleated.

Another patient had a prostatectomy in March, 1916. He returned in December of the same year, and three phosphatic stones were removed from his bladder, the largest measuring 4 x 3 x 2 cm., a growth obtained in eighteen months, due to an alkaline cystitis and a contracted vesical orifice.

That phosphatic calculi will grow faster than others is recognized, and an alkaline cystitis or the presence of a foreign body furthers such growth to a marked degree. In our museum is a string of four calculi, the largest measuring 3 x 3 x 2 cm., all adherent to a linen thread, probably misapplied during a herniotomy five months before.

I have observed complete incrustation of a mushroom catheter's head, due to an alkaline urine, fifteen days following its suprapubic emplacement in a child's bladder.

Preventive measures, in addition to those already mentioned, consist of repeated daily bladder lavage during the period of drainage and longer thereafter if the urine does not become and remain normally acid. In the presence of a marked alkaline cystitis, lavage may be performed with a weak solution of hydrochloric acid or, better yet, phosphoric acid.

Infection should be actively combated with the usual antiseptics by mouth. A clear urine, with the complete eradication of residual urine, are the best criteria for the nonrecurrence of vesical calculi.

Ureteral Calculi

By admitting, without entering into discussion, that the vast majority of ureteral calculi originate in the kidney and become troublesome only because of their migration downward, we shall simplify the immediate problem. The ar-

rest of this migration, aside from inducing active and alarming clinical symptoms, produces pressure effects on functioning kidney tissue which endanger its future utility. Add to such back pressure the presence of infection, and permanent damage ensues.

It is cheering to report eighty-odd per cent of ureteral stones delivered by cystoscopic manipulation; but here again one must realize that the calculus removal is not the primary object and constantly bear in mind the removal of the cause of the formation and cure of the condition that arrested the calculus in its passage, and above all to refrain from delay if progress in passage is not perfectly self-evident. Illustrating this in varying degrees are the following three cases:

A patient with acute ureteral calculus colic that resisted cystoscopic methods was operated upon and a ureterolithotomy performed. A persistent urinary fistula led to the demonstration of a true ureteral stricture, later proven bilateral, and permanent cure with freedom from pain was obtained only after sufficient ureteral dilatations.

Another patient entered the hospital suffering with renal colic. Six months before, three stones had been removed by a simple pyelotomy. An indwelling ureteral catheter relieved the condition immediately and during this period of catheter drainage his x-rays were negative. Following the removal of the catheter, after three days of drainage, he was perfectly comfortable and begged to be allowed to go home. The only contraindication was a temperature curve a degree or two above normal and a leukocyte count that persisted around 15,000. On reintroducing the ureteral catheter, 40 c.c. of purulent renal pelvic urine was obtained, with a complete subsidence of these clinical signs. At secondary operation, another calculus was removed. Such a patient, allowed to go his way, would probably suffer silent kidney damage, even to complete destruction.

A third case is that of a boy of eleven years, who two months before admission suffered his first attack of left-sided abdominal pain, with fever of one week's duration. This was repeated on two other occasions. The finding of some pus in his urine while suffering the third febrile attack led to an x-ray examination which revealed such an unusual shadow that the possibility of it being a rudimentary third femur was considered. Ureterolithotomy removed a calculus 10 cm. long by 1.5 cm. in diameter. Drainage was followed by a remarkable quick convalescence, as the kidney was completely destroyed. This, the end result of delay in such cases of complete blockage, illustrates nature's method of protecting herself by circumventing the trouble by nonfunction, which generally leads to rapid and complete destruction if infection be present.

Renal Calculi

True recurrence of a renal calculus is a very difficult point to prove, and only by systematic x-raying of the exposed kidney during the operation can one be sure of not overlooking chips or small stones, and even then the x-ray-negative stones are missed entirely. The operative procedure is hindered by inability to search out contributing causes to renal stone formation because of the difficulty of the operative field. Visualization of the renal pelvis is practically always an impossibility, and digital examination is not particularly dependable. Without question, good postoperative drainage would be a distinct advantage here were it not for the likelihood of troublesome fistulization, but copious pelvic lavage at operation can always be utilized as a trustworthy means of removing small particles which may act as nuclei for secondary stone formation, and it should not be omitted in any case.

The gravest problem is the decision as to when to nephrectomize in nephrolithiasis. Though frequently the easier procedure, it nevertheless too frequently returns to haunt one when calculi begin forming in the remaining solitary organ. I cannot but feel that in a certain number of cases partial nephrectomy, with removal of the stone-forming area, will become more popular. Ofttimes a poorly draining lower calix is at fault, and can be sacrificed by partial nephrectomy, as recently advocated by Dr. Young.

In August, 1925, an emergency ureterolithotomy was performed on a patient, and a small calculus was missed. On discharge this was found to be in the lower end of the ureter. By cystoscopic manipulations it was broken and some fragments were passed but not all. The patient returned in colic eight months after his former operation, and a calculus measuring 2 x 1 x 1 cm. was removed from the lower ureter by open operation. It had increased to at least ten times its former size in these eight months.

Another man had a right nephrectomy for calculus pyonephrosis in March, 1917, and earlier in the same year an external urethrotomy for severe bulbar stricture. In December, 1919, he began having trouble in his left kidney region, and during the following three years recurrent pain and pyuria suggesting tuberculosis required study and care, but negative laboratory reports were returned. In 1922, complete anuria of eighteen hours' duration demanded a decapsulation of his solitary kidney. He was well until 1926, when he entered the hospital in March after six weeks of recurrent left renal colic. A stone in the lower end of the ureter was found, and during the succeeding five months he entered the hospital on four different occasions in acute colic and desperately ill. Catheter drainage to the left renal pelvis each time saved his life, and we always hoped to make the wretched little calculus dislodge and save operating again, as the patient was knife-shy when free of pain. In this way we watched the stone grow over five months and saw it increase at least three times in size. As we contemplated operation he left the hospital, only to develop colic later and accept the services of another surgeon. A preoperative x-ray showed the calculus as before, in the lower ureter, and operation the next day demonstrated it to be in the bladder, it having spontaneously passed, however inconceivable, during the night interval.

Cystin stones have been dissolved in the renal pelvis by persistent renal lavage with alkaline solutions, and stand alone as the only type of

such therapy possible, though a recent report from Rovsing's clinic recounts success in dissolving phosphatic bladder calculi with weak solutions of hydrochloric acid. There is little hope of success along this oft-tried line, and one must realize that the all-important factor is a knowledge of the chemical character of the calculus. Again, it must be realized that the usual antacid therapy, so often instituted in calculus cases as a matter of routine, may often act as a boomerang, for though uric acid and its salts are soluble in alkaline mediums and tend to become insoluble as the acidity increases, the exact opposite is true for the calcium oxalates and calcium phosphates, which are deposited in alkaline mediums and dissolved by acids.

There is need for much research in an effort to solve this century-old problem, and until its secret is revealed, the surgical indications are threefold: (1) the removal of the cause of urinary obstruction at the time of lithotomy; (2) a prompt return of the urine to normal, both as regards freedom from solid elements (pus, bacteria, shreds, etc.) and likewise its chemical reaction; and (3) a removal of any focal infection present in the body.

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TREATMENT OF URINARY CALCULI

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Among the earliest of surgical ventures was "cutting for stone." As early as 1,000 B. C. crude operations were performed for extraction of bladder calculi—a far cry to the modern highly technical procedures that have been developed to relieve the human sufferer of one of the most painful ailments he is called upon to endure. With improvement and refinement in methods of diagnosis (enhancing the ability to recognize stones in their early stages) methods of relief have kept pace, and so intimately are they associated that treatment of calculi may be said to begin with their diagnosis. The treatment of urinary calculi should contemplate: (1) determination of the cause and type of stone present; (2) complete renal, ureteral, and cystoscopic study; (3) removal of stone; (4) elimination of predisposing factors and cause.

Etiology

As Hager and Magath have pointed out, there are various factors implicated in the origin of urinary calculi. Seldom will a single factor alone be at fault. Each case requires careful investigation to determine the causative lesions. Predisposing lesions may be foci of infection, such as abscessed teeth, infected tonsils, and sinusitis (Rosenow), but the actual causes may be listed as: (1) Metabolic—cystin, uric acid, or oxamid. (2) Bacterial—exogenous or endogenous (from foci of infection elsewhere in the body). (3) Mechanical—urinary stasis (i.e., prostatic hypertrophy, bladder diverticulum, or stricture); foreign bodies, such as pins or bits of gauze or necrotic tissue, usually in a postoperative bladder (Paetzel); or bladder tumors. In certain individuals recurrence is not improbable. This is more likely when abnormal metabolism or infection is a factor.

Urologic Examination

In deciding upon appropriate treatment, a careful urologic examination is indispensable, including cystoscopy with radiograph, pyelogram, and shadowgraph catheter to locate the stone or stones accurately; examination and culture of the bladder and ureteral urines to ascertain the presence of sediment crystals or infection; and the differential test of the function of each kidney to indicate the destruction of kidney tissue and the adequacy of the apparently healthy kidney in the event that nephrectomy is necessary.

Certain types of stone may be ascertained by the reaction of the urine and the character of the crystals in its sediment. If cystin crystals are found, cystin calculi must be suspected. Cystinuria with calculi is apparently due to a disturbed protein metabolism which often occurs in children and in several members of the same family (Stallman.) The stones are frequently multiple and readily recur, so that surgical interference alone is of little avail. The calculi are soluble in alkaline solutions. Crowell has reported striking results from alkalinization of the urine, giving sodium bicarbonate, gr. 45 to 60, in twenty-four hours by mouth, putting the patient on a low-protein diet, and finally pelvic and ureteral lavage with an alkaline solution such as mercurochrome, 1 to 2 per cent (mercurochrome, because infection was present). Under this treatment, the cystin calculi simply melted away.

Extraction

Extraction of urinary calculi must, of necessity, vary with their location and character, as they may arise in the kidney, ureter, bladder, or urethra, and each location presents its peculiar problems.

Renal Calculi

Renal calculi may be present either in the cortex, the calices, or the pelvis, and may be

single or multiple, unilateral or bilateral. Their serious menace lies in their frequent complications, such as hydronephrosis, pyelonephritis, small cortical abscesses, or a general pyonephrosis.

Stones in the pelvis may be removed by pelviotomy. Even small stones in the calices may be reached by forceps introduced through this incision, and extracted by careful manipulation. The number of stones present can usually be determined from the preoperative radiograph. The pelvis may be explored by the finger to be sure all stones have been removed and no fragments left, or direct kidney fluoroscopy on the operating table, as suggested by Braasch, will show any remaining stones or stone fragments. When infection is present or stones are of long-standing, there may be a great deal of induration, inflammatory reaction, and thickening about the pelvis, making it impossible to palpate a stone and exceedingly difficult to expose a short-pedicled kidney. When this is encountered, especially in the aged or poor-risk patient, it will be easier to approach and remove even a pelvic stone through a cortical incision, preferably at the avascular line.

Cortical stones generally give so few symptoms, until there is infection, that when presented for operation, they are usually multiple, in small abscess cavities, and not infrequently bilateral. Their removal is accomplished by a simple incision over them; the cavity containing them is joined to the nearest calix, and drainage, when indicated, should be through the cortex and cavity into the calix.

With three or more cortical stones, a large abscess, or infection, nephrectomy may have to be considered. When the stones are large, multiple, or branched, with extensive infection but with the kidney tissue still functioning and a sound opposite kidney, nephrectomy must be considered. It is definitely indicated when the stones are unilateral and multiple, when pyonephrosis is present, and when functional tests show little or no functioning kidney left. Braasch states that nephrectomy for nephrolithiasis is indicated with: functionless kidney, secondary malignancy, diffuse advanced infection, marked hydronephrosis, or previous operation with or without persistent fistula. Conservatism should be the rule when the calculi are single or multiple and easily removable, with stones or infection in the other kidney, or with repeated stone formation in both kidneys. In doubtful cases, functional end results are to be considered rather than the possibility of recurrence, but final judgment must be reserved until the kidney is inspected and palpated at operation. When one pole only is involved, heminephrectomy has been performed (Young).

Bilateral stones demand conservative and careful procedure. One kidney should be dealt with at a time. It is best to treat the less involved kidney first in order to obtain the maximum kidney function as soon as possible, as nephrectomy may have to be done on the more seriously involved side, and can be more safely and confidently undertaken when there is accurate knowledge by direct inspection of the other kidney. But nephrectomy in cases of bilateral stone should be reserved for a total pyonephrosis when the kidney has been completely destroyed. With numerous or very large stones, no symptoms, and advanced bilateral renal destruction, operation is contraindicated (Braasch).

Ureteral Calculi

Calculus of the ureter has presented a problem in which the profession has long reveled and has been peculiarly a field in which the urologist has made perhaps his greatest contribution. Formerly, operative approach was the only recourse possible, but with the development of intravesical manipulation through the cystoscope, various successful measures have been used to evacuate stones from the ureter, so that most ureteral calculi (60 to 80 per cent) yield to cystoscopic attack, stones in the lower third particularly.

The indications for radical operation are: (1) the presence of stones whose diameter is greater than that to which the ureter can be dilated to permit of their passage (1 cm. and more) and (2) infection. Small stones may require operative removal because of marked infection, dilatation of the renal pelvis, and anuria (Thompson Walker).

Conservative methods include: (1) Measures to withdraw or force out the stone—injection of a local anesthetic to relax the ureter; injection of sterile olive oil above the stone, when the catheter passes the stone; and simply passing a catheter beyond the stone and leaving it in place twenty-four to thirty-six hours, when, on removing it, the stone may come down with the catheter into the bladder whence it may be voided spontaneously or evacuated through the cystoscope. (2) Dilatation of the ureter—passage of two or more catheters up the ureter to or beyond the stone; passing bulbous bougies of graded sizes or special dilators; direct instrumental dilatation of ureter and removal of stone; or section or cutting of the intravesical ureteral orifice, followed by dilatation and removal. The two most useful methods are the passing of several catheters up the ureter and dilatation or

section of the ureteral orifice. As many catheters as possible are inserted beyond the stone, so that, if possible, it may be made to engage in the ends of the catheters. These are twisted and the stone pulled down with them into the bladder, from which it may be spontaneously passed, seized by instruments and withdrawn, or washed out through the cystoscope.

Operation.—A lateral iliac incision will expose all but the lower quarter of the ureter easily, and stones even here that are movable up to the brim of the pelvis may be readily removed through this incision. For stones in the lower quarter, and especially impacted stones in males, the midline extravesical approach of Judd is to be preferred. In women, if the stone is above the level of the uterine artery, the lateral approach is best. If below, a midline or vaginal route is to be considered. Suture of the ureter after extraction is not necessary.

Vesical Calculi

Vesical calculi may arise from: (1) Ureteral or renal calculi, passing down into the bladder. (2) Urinary stasis with or without infection—prostatic hypertrophy, diverticulum, or contracted vesical neck. (3) Infection—B. coli or B. proteus ammoniæ. (4) Foreign body in the bladder—postoperative, bit of gauze, or pin, catgut, etc. (5) Bladder tumor.

Treatment must be directed towards removal of the stones and cure of the lesions to which they may be secondary. Of the many means devised for extraction of vesical calculi, three have survived: suprapubic cystotomy or cystostomy, litholapaxy, or cystoscopic evacuation.

The indications for cystostomy are marked cystitis, prostatic hypertrophy or contracted neck of the bladder, diverticulum of the bladder, large stone with contracted bladder, youth of the patient (preventing passage of instruments), or bladder tumor.

The indications for litholapaxy are: (1) the presence of medium stones without marked infection or diverticulum, or bladder tumor; (2) bad operative risks in which urinary stasis is not a factor; (3) certain selected cases in which suprapubic operation should be avoided, previous operation for ventral hernia, etc.

Evacuation of calculi through the cystoscope is applicable only to small stones, usually renal or ureteral in origin, that have not been or cannot be spontaneously evacuated. They may either be washed out, seized with instruments, or made to engage in the internal orifice of the cystoscope, and will come away with it when it is withdrawn.

The mortality from cystostomy, by all published statistics, has been shown to be higher than by litholapaxy, but the percentage of recurrence is lower. With the great improvement in surgical technic and asepsis, and the widespread use of local, parasacral, and spinal anesthesia, the mortality from the suprapubic operation has been greatly lowered. Therefore, except when there are definite contraindications, it may perhaps be the operation of choice to a general surgeon. Though skill in the use of the lithotrite balanced against the surgical ability of the operator should determine each surgeon's preference, no technic is justified which cannot approach the usual mortality figures, nor should the longer convalescence from cystostomy be ignored. Neither should the bad-risk cases, when litholapaxy is indicated, be denied the lesser procedure.

Hager and Magath have shown that certain vesical calculi are associated with an incrusting cystitis due to B. proteus ammoniæ, an alkalinizing bacterium. These cases require, besides removal of the stone, careful aftertreatment, acidification of the urine by sodium acid phosphate, bladder irrigation with weak acetic acid, and intravesical injections of lactic-acid bacilli.

Urethral Calculi

Urethral calculi are exceedingly rare. They are usually due to impaction of a small vesical calculus in the prostatic urethra, or, in children, to congenital anomalies, such as prostatic cysts, urethral strictures, or diverticuli (Chamberlain). They may be removed by cystoscopic or urethroscopic manipulation or by an external urethrotomy.

Aftercare

Following removal of calculi or convalescence from operation, a proper régime should be prescribed for the patient. Factors predisposing to the formation of stones should be eliminated, such as abscessed teeth, diseased tonsils, or other foci of infection. Faulty metabolism should be corrected by an appropriate diet—low purin intake for uric acid and low protein for cystin stones. In vesical calculi caused by urinary obstruction, prostatectomy or excision of the median bar should follow. Bladder tumors and diverticuli may be treated at the primary operation. Residual and urinary infection should be eliminated by changing the reaction of the urine from alkaline to acid or vice versa, by urinary antisepsis (urotropin, etc.), by bladder and ureteral antiseptic lavage (mercurochrome, silver nitrate, acriflavin), and by dilatation of any existing ureteral stricture.

General measures include regulation of the water intake and a diet free from acid foods or

those irritating to the kidney, such as pickles, berries, or alcohol. Ochsner long advocated the drinking of distilled water as a prophylactic against the recurrence of calculi. In the hands of others, this has not met with invariable success. It may be worth a trial, particularly in those who have had multiple calculi. Thompson Walker advises a diuretic treatment—1,000 c.c. of water taken before breakfast in three equally divided doses, with fifteen minutes of exercise after each. This is to be kept up for a month, and may be repeated at three- to four-month intervals.

Conclusions

The treatment of urinary calculi should, therefore, include: (1) Determination of the cause for the calculi. (2) Complete urinary, pyelographic, and cystoscopic study. (3) Removal of the stone. (4) Elimination, when possible, of the predisposing factors or cause. (5) Aftercare.

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ABSTRACT OF DISCUSSION

Of Symposium on Urinary Lithiasis

Wilbur H. Haines, M.D. (Philadelphia, Pa.): What mechanism permits one patient to have two small calculi in his renal parenchyma for fifteen years, and another to have a stone the size of a horse chestnut lodged in her lower calix for seven years, without serious clinical evidence or apparent increase in size as judged by the x-ray? What chemical or physical phenomenon permits a prostatic (with five ounces of residual urine, and this infected for a period of three months) to carry a portion of a vesical calculus, a small chip having been removed by cystoscopic rongeur, for two years and nine months without any apparent increment? Here is an ideal background for stone building in the bladder—a nucleus, obstruction, stasis, and infection—points emphasized by Dr. Randall. The patient has had very little medical care during this period. However, he is unusual in other respects in that he had a radical amputation of his left breast for carcinoma five years ago. His prostate is not regarded as malignant, but he refuses operation and has the moral support of his family doctor in this.

Why can one individual have hair pins, glass rods, rubber tubes, etc., in the bladder for weeks or months without seriously disturbing the protective colloids, while in another the colloidal balance is upset almost immediately, resulting in the rapid formation of large calculi? Hence, the colloidal balance can be maintained under adverse conditions.

Defective secretory nerves seem to offer a probable etiology in certain instances, as evidenced by the frequently rapid formation of both vesical and renal calculi following spinal injury or immobilization for vertebral or hip-joint disease in children. Whatever the etiology, it cannot be denied that infection plays a very important rôle—in 95 per cent or more of cases. The uric-acid and oxalate calculi are usually accompanied by sterile urine, but a careful history and physical examination would no doubt reveal past or present foci of infection in these patients. The idea of a specific stone-forming bacterium has abundant clinical evidence and sufficient experimental data to support it. The frequent association of obstruction and stasis compels their recognition as contributing factors, in that they create a favorable field for work.

All observers agree that there is much variability in the rapidity of growth. Crenshaw, of the Mayo Clinic, in a study of 606 cases of vesical calculi, noted that the average duration of symptoms was 5.8 years and the largest stones were 6.5 x 5 cm. He concluded that time was only a minor factor.

The diagnosis is usually not difficult owing to the many improvements in urologic technic. Rarely does urinary calculus necessitate an emergency operation; hence, there is time for thorough study of every case. Dr. Kretschmer has called attention to the "stone reflux," an important point in the study of ureteral stone. The progress of a ureteral calculus should be carefully watched. If it cannot be budged after two or three trials over a period of six days, and there is absence of function and urine on the involved side, operation should be done at once. Extreme gentleness should be a guiding principle in vesico-ureteral manipulation. A smooth stone 1.5 cm. in diameter can be passed, and much larger stones have been passed by females. Any calculus that will permit the passing of a half-dozen filiforms or ureteral catheters will usually pass without their aid if given a chance. The extraction of a spiculed calculus by this method is fraught with much more serious sequellæ than open operation.

Five years ago I suggested the passing of a ureteral catheter to the point of obstruction just before operation, which procedure has since been advocated by Rathburn. Frequently, ureteral stones begin to wander when the patient becomes relaxed by ether. This procedure prevents their descent, facilitates the finding of the ureter and calculus, and upon extraction the catheter can be quickly passed to the pelvis for lavage purposes or drainage. Furthermore, the opportunity for vesical inspection has obviated the necessity of an operation in one instance. Cystoscopy just prior to operation has been advocated, especially in children.

The diagnosis and removal of calculi are minor steps as compared with the pre- and postoperative care of these patients in order to avoid recurrence. The following measures are applicable in this effort: (1) The preoperative elimination or reduction of infection as far as possible by drinking literally gallons of water and the administration of antiseptics locally and internally. (2) The removal, at operation, of any obstruction and the obliteration of all dead spaces, thorough lavage with mercurochrome, and the establishment of suitable drainage, where feasible, so that daily lavage can be practiced. (3) Renal denervation, as advocated by Milliken. It is not difficult in a kidney that is easily delivered, and it establishes diuresis from one to two years. (4) Chemical examination of the calculus, and, if of clinical value, the application of suitable dietary measures. (5) Postoperative elimination of infection as described above. (6) Rendering the urine acid or alkaline, whichever is indicated. (7) A careful urologic

examination every six months for a period of five years.

I. L. OHLMAN, M.D. (Pittsburgh, Pa.): We inherited from our predecessors the conviction that we must give castor oil and an enema the evening before we x-ray a patient, repeat the enema the following morning, and send the patient to the x-ray room without breakfast. Having viewed a great many pictures after such preparation and as many without any preparation at all, I have almost concluded that equally as good, if not better, pictures are obtained without preparation.

In a patient whom I saw a number of years ago, a cystoscopy, in which the field was very clear, distinctly revealed eleven stones lying in a little nest, but free to move about in the bladder. The patient was told that there was only one thing to be done—a cystostomy followed by prostatectomy, which he refused. Some months later I heard that he was receiving diathermy treatment. A year or fifteen months after I first saw him, I found one of my confrères cystoscoping him in the hospital. I was invited to be present at the operation, and a few days later, instead of finding eleven small stones, one very large calculus was found. There was no error as to the number of stones I saw at my first cystoscopy nor any doubt as to a single stone being found at operation. Therefore, there is a substance which may agglutinate stones after they have reached a considerable size, as well as small granular particles, into a single stone. A careful cross section of this stone showed that it was made up of a group of small stones.

I once saw a man who had received methyl blue during one definite period—nine months before operation. A cross section of the stone, when removed, showed just how much it had grown since that time.

I disapprove of the use of the various instruments for tugging at small ureteral calculi. Most of these instruments are dangerous and their use is unsurgical. The peritoneum and other important structures are entirely too close for safety.

Clinical Reports *

NERVOUS MANIFESTATIONS OF SEVERAL COMMON PEDIATRIC CONDITIONS

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The number of cases with early nervous manifestations which remain undiagnosed is astonishing to the pediatrician. As an example, a case recently came to us of a child ten days old. The attending physician said that something was wrong with the child, but he could not make a definite diagnosis of the condition. The case was one of typical mongolism, with the slant eyes and other well-known symptoms. If the general practitioner were on the lookout for such conditions, he would be able to diagnose them very easily. At present, we have no treatment to offer for mongolian idiocy, and the parents should understand that the chances of recovery are very slight.

In hydrocephalus and microcephalus it is possible to have a brain involvement of some extent, yet with apparently normal mental function. A prognosis should be made cautiously in such cases, as a child who is somewhat deficient mentally may in time develop a normal mentality. I have had one patient with a very marked microcephalic condition who developed into a perfectly normal boy and was unusually bright.

I have been impressed by the frequency with which chorea is overlooked, simply because the child does not have movements so pronounced as in the typical textbook cases. A simple diagnostic test may be made by having the child put the muscles under a strain and stretch the arm out as far as he can, clenching the fist, pointing with the index finger, turning the hand in at the wrist, and trying to see how still he can hold his fingers. This test gives pronounced evidence of incoördination of the muscles, and is at once delicate and simple.

Simple cases should have the same treatment as the more pronounced cases. I emphasize the need of rest, although this is not popular because of the time it seems to require. However, I feel that in the end it saves time. The child should be treated as if critically ill, until the complete coöperation of the patient is secured—which is sometimes difficult and sometimes not. The patient is put to bed, fed, and kept absolutely at rest until completely relaxed. I like to continue this rest cure for about six weeks, even if it does not seem necessary. Movement is worked up to gradually.

The diagnosis of spasmophilia, of course, can be made by the typical textbook examinations, but in out-patient work there is little opportunity to study the electrical reactions, so we count the local irritation as the most important finding, and the child is put on phosphorus, cod-liver oil, and calcium lactate. Medication is a matter of personal opinion. Some doctors think that calcium lactate is of absolutely no use. I believe it to be almost specific in these cases. The books usually recommend calcium chlorid, but in my experience, the lactate solution is better tolerated than the other calcium salts. In some cases bromids, salts of sodium and potassium, seem to aggravate the condition rather than alleviate it. We, therefore, use chloral, but avoid potassium and sodium bromids. We do give calcium bromid at times, and if the convulsions last too long, sometimes it is necessary to use chloroform, but we seldom resort to that. It is necessary to administer calcium for a long time. In hospital cases we estimate the blood calcium and blood phosphorus, but in the out-patient department,

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do not pay so much attention to these examinations.

In a particularly interesting case of spasmophilia under our care, the convulsions did not occur until the patient was four years old, although they usually develop from the sixth to the eighteenth month in association with beginning rickets. This little girl was apparently all right until she was about four years old. Then she was brought to us in a convulsive state, with about thirty or forty convulsions in one day. I have never seen another child quite so sick who recovered. Two years later I saw her again in my office, and she had a very pronounced Chvostek reaction. After appropriate treatment, this disappeared entirely.

Another little patient has had three attacks in three successive years. He was quite young at the time the convulsions appeared. They lasted for about three days and then gradually cleared up, and he was all right until the next attack.

The importance of spasmophilia should be emphasized. Unfortunately many physicians still do not realize that it is a definite condition, and much harm is done by this idea.

Meningitis is another disease in which there is failure to make a diagnosis with surprising frequency. Probably fifty per cent of the cases of meningitis brought to the Children's Hospital are not diagnosed, probably due to the age of the patient. It is astonishing how young a child can have meningitis. We have had one such patient only three weeks old. If there is any evidence of meningeal irritation, we do a lumbar puncture. We have never had any ill effect from this procedure, and I feel that every doctor should know how to do it. It is not difficult, and helps so much in diagnosis. Unfortunately, we have had few cases of meningitis of the type we could help. There have been two or three of the cerebrospinal type, two of which ended in complete recovery, largely due to early diagnosis.

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KETOGENIC DIET IN EPILEPSY

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This diet is useful only in idiopathic epilepsy, not in symptomatic or reflex epilepsy nor in cases having mental degeneration. Inasmuch as neither the etiology nor the histopathologic changes in the brains of epileptics is known, a specific treatment for true epilepsy can not be advanced.

The object of the diet is to produce ketosis, and also a tendency toward acidosis, as rapidly as possible without upsetting the child's digestion. In ketosis, acetone and diacetic acid are found in the blood and urine, and acetone can be detected in the expired air. Fat burns in the fire of carbohydrate. Ketosis is produced when there is incomplete combustion of fat. There is complete combustion of fat (it is completely burned to C_2, 0_2 and H_20) as long as there is maintained a ratio of 4 grams of fat to 1 gram of carbohydrate in the diet. If this ratio is overstepped and 5 grams or more of fat are eaten to 1 gram of carbohydrate, then the fats are incompletely burned and ketosis is produced. To produce proper combustion of fats in a normally balanced diet all of the carbohydrates and about 60 per cent of the proteins are available. If ketosis is to be produced, the amounts of these two factors in the diet must be kept very low and the amount of fat high.

A proper diet must furnish sufficient food for maintenance, growth, and energy consumption; also minerals, vitamins, and water. It is necessary to consider age, weight, height, activity, sex, temperature, caloric requirements, effect of the sudden dietary changes, weighing of foods, and the use of food tables. The patient must be instructed to be careful and faithful, to eat three regular equal meals per day with nothing between except water, eat slowly, chew well, take a nap every noon, retire at 7 p. m., have a daily bowel movement, with Carlsbad salts or diabetic petrolagar if needed, and avoid excitement. The urine must be examined with the ferric chlorid test for diacetic acid every second day, and the patient is weighed twice weekly.

One gram of carbohydrate yields approximately 4 calories; one gram of protein, 4 calories; and one gram of fat, 9 calories. The total caloric requirements vary, but it is safe to proceed with proportionate and not absolute amounts. It is well to start with 50 calories per kilogram of body weight, gradually increasing up to 60 or 75 calories in order to achieve a gradual weight gain.

The weight in pounds divided by 2.2 equals the weight in kilograms. The weight in kilograms multiplied by the calories per kilogram desired to be given equals the total calories in twenty-four hours. The minimal requirement of protein is one gram for each kilogram of body weight. There is danger of nausea and vomiting from the sudden change from a normal, or high-carbohydrate diet, to a low-carbohydrate and high-fat diet. Therefore, it is practical and essential to start with 75 grams of carbohydrate the first day; or the patient may be put on a starvation diet of water, 6 to 8 oz. of orange

juice, carbohydrate-free (or diabetic) muffins, and clear or fat-free broth for four to seven days, examining the urine carefully.

In a patient weighing 96 pounds (43 kilos), 43 x 50, or 2,150 total calories are needed at the start. The minimal protein requirement (1 gram per kilogram) means 43 grams of protein. Thus, so far, the prescription will be:

Carbohydrate	Protein	Fat
75 grams	43 grams	Balance
4	4 grams	
300+	172 = 472 calories in c. & p.	

2,150 total calories—472 calories in carbohydrate and protein = 1,678 calories in fat.
1,678 ÷ 9 = 186 grams of fat.

The final prescription is, thus, 75 grams carbohydrate, 43 grams protein, and 186 grams fat. Reduce the carbohydrate and increase the fat rapidly or slowly according to the number and severity of the seizures. On the second day reduce the carbohydrate to 50 grams, a loss of 100 calories, made up by 100 calories in fat (11 grams x 9 calories). The prescription is then 50 grams carbohydrate, 43 grams protein, and 197 grams fat. On the third day, reduce the carbohydrate to 30 grams, a loss of 80 calories made up by 9 grams of fat (9 x 9). The prescription then is 30 grams carbohydrate, 43 grams protein, and 206 grams fat. This prescription contains proportions of fat to carbohydrate greater than 5 to 1, having 55 grams of antiketogenic substance (all the carbohydrate and 60 per cent of the protein) and 206 grams of ketogenic substance (all the fat), so a state of ketosis will probably develop, as shown by the urinalysis.

The urine should again be tested the second day. If diacetic acid is present, the above prescription should be continued. If it is negative, the carbohydrate should be reduced 5 grams and enough fat (2 grams) added to keep the total calories the same. The urine is tested every second day in this way, reducing the carbohydrate 5 grams (20 calories) and adding 2 grams (20 calories) of fat until the diacetic acid persists. Having achieved ketosis, the patient is weighed twice a week to check up. Any time weight is lost, the number of calories is increased, leaving the ratio of ketogenic to antiketogenic elements the same—especially not increasing the protein, but increasing the fat and carbohydrate in the proportion of 5 to 1. This diet is continued from four to six months after the attacks cease. Each month the carbohydrate is increased 5 grams. Each third month the protein is increased the same amount, up to 2 grams per kilogram. The fat is reduced in proportion if the child is gaining. If not, the amount of fat may remain constant or even be increased. If convulsions persist for from four to six weeks in spite of treatment (ketosis) seven to ten days' starvation may be tried, using only the juice of two oranges and one or two quarts of water daily, then resuming the diet gradually.

I am deeply indebted to Dr. M. G. Peterman, of the Milwaukee Children's Hospital for instruction and encouragement in following up this line of treatment. His reports show a series of cases which have thus far seemed to offer the most encouragement of any presented in many years in the treatment of true epilepsy.

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ACUTE ANTERIOR POLIOMYELITIS

With Special Reference to Serum Therapy

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During the summer of 1927 there were more cases of acute anterior poliomyelitis in the Pittsburgh district than had been experienced for the past few years, though the disease did not reach the stage of an epidemic.

There were twenty cases in the Children's Hospital, with three deaths. A few general considerations of the disease as it showed itself in these cases will be touched on in this report, with an outline of the medical treatment, particularly the serum therapy.

The most common age incidence was from two to four years, the youngest patient being three months of age, the oldest twelve years.

In 65 per cent of the cases, the attack began with a gastro-intestinal upset, fever of 101° to 103°, vomiting, and most commonly diarrhea but sometimes constipation, followed in one to four days by paralysis or weakness of the muscles. Twenty-five per cent of the cases began with the predominant symptoms in the upper respiratory tract. In the remainder, the first thing noticed was fever and paralysis.

In most of the cases the amount of paralysis evident twenty-four hours after the onset marked its full extent. In a few cases, according to the histories, the paralysis seemed to progress after this time for as long as two days. Muscle tenderness was present in practically every case, usually lasting two to three weeks. The spinal-fluid examination in early cases varied from 30 to 212 cells per cu. mm. with a positive globulin.

Of the twenty patients, all survived the acute attack except three. Two of these were of the bulbar type, one dying a few hours after ad-

mission. Another, with paralysis of the intercostal muscles and unable to swallow, developed bronchopneumonia, and died eight days after the onset. The other death was that of a baby three months old who was doing quite well two weeks after the acute attack, taking feedings well, gaining weight, with temperature normal, yet died quite suddenly. The cause was unknown, and an autopsy was unobtainable.

The treatment included absolute rest, with the patient tied down if necessary. Urotropin, salol, and sodium citrate were given in various cases with no noticeable change in the progress. Orthopedic treatment was begun immediately unless the child was so ill that any manipulation was contraindicated. Lumbar puncture was performed in all acute cases, and was repeated if the child was very irritable or seemed to be suffering from increased intracranial pressure. Serum from convalescent poliomyelitis patients (the donors had had the disease at least six months previously) was used in two cases treated in the Children's Hospital, both patients surviving, and in six other cases upon which I wish to report. One of these was an out-patient who died. The remaining five were treated in another hospital in 1925, four of them recovering.

The serum should be given within forty-eight hours of the onset of the paralysis, and preferably within twenty-four hours. It should also be given in the progressive type if the paralysis continues to spread. The dose is 25 to 50 c.c., depending on the size of the child. To an infant, only 25 c.c. is given, gradually increasing to 50 c.c. for a child of six years. The dose was repeated in twelve hours in four of the more serious cases.

Method of administration. Fifteen to twenty-five c.c. of spinal fluid was withdrawn, and a slightly smaller amount of serum was run in by gravity. The remainder of the amount decided upon was given intravenously. No reaction that could be attributed to the serum was noticed in any case.

The results were not too encouraging. In the eight cases there was a mortality of 25 per cent, and Holt gives the average mortality as 10 to 20 per cent, though it varies with the epidemic. These cases, however, were all sufficiently acute that they were diagnosed, brought into the hospital, and the serum prepared and administered within 24 to 48 hours. Fifty per cent were of the bulbar type, and these are always accompanied by a high mortality. One patient with the gradually ascending Landry's type was given 35 c.c. of serum forty-eight hours after the beginning of the paralysis, and twelve hours later 50 c.c., yet the paralysis continued to ascend with a fatal result from involvement of the respiratory muscles. In another case with both legs, intercostals, and right side of the face involved, and experiencing difficulty in swallowing, the patient recovered power in his intercostals, his pharynx, and to some extent in the right side of the face within ten days.

In conclusion, serum therapy is not a great boon in the treatment of this disease, but when available, we feel that it is only fair to the child that it be given in early cases seen within twenty-four to forty-eight hours, especially if there is bulbar involvement, when the prognosis is not so good under any circumstances. The amount of recovery from muscle involvement is so variable in all cases of poliomyelitis that it is impossible to deduce the effect which the serum had on this phase of the disease.

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SPECIFIC VAGINITIS IN CHILDREN

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Vaginitis in children as seen by the average physician is of a chronic nature. In speaking of this condition it is practically understood that there is to some extent an involvement of the cervix and urethra as well. Though vaginitis sometimes may be quite mild in its manifestations, the condition should never be neglected or treated lightly, as it is highly contagious and may be a source of blindness in the patient or her attendants. The infection may occur at any age, but in our records the greater number occur between five and seven years. Infants as young as two months have been treated in our clinics.

Vaginitis neonatorum fortunately does not occur so frequently as the ophthalmia. It develops after breech presentations in gonorrheal mothers.

In sporadic cases seen in office or dispensary work, some adult member of the household is usually responsible, the child being infected by bed linen, wash cloths, towels, and other articles. The joint occupancy of one bed by the child and an infected person is held to be a frequent source of contamination. In hospitals where epidemics are common children may be contaminated by rectal thermometers, bed pans, bath tubs, and toilet seats, the latter, in the author's opinion, being the outstanding offender. It has been reported by Skutch that 236 girls were infected by using a public bath. Gonorrheal vaginitis is more prevalent than was previously supposed. It has been pointed out that about two per cent of females applying for admission to hospitals and homes for infants have gonorrheal vaginitis.

The microörganism causing this specific condition is familiarly known as the bean-shaped diplococcus. These organisms are found grouped in pairs, fours, and other multiples of two. Both living and dead gonococci contain toxic substances. The most frequent organism with which it is confused is the micrococcus catarrhalis mucosus. It can be excluded, however, by the cultural characteristics, in that the gonococcus ferments glucose and maltose. It must be borne in mind that there are various strains of gonococci existing. Some authors claim that there are adult and infant types, yet morphologically and culturally these seem to be identical.

Eyre states that of the many types of gonococci there are three main varieties. The first is that obtained from ophthalmia neonatorum and from the gonorrheal conjunctivitis of the adult. The second type is one recovered from joint fluid. The third type is found in acute genital gonorrhea.

The vaginal canal in childhood does not have the same protective functions that it takes on in later life. The labia are small and gaping, so as to expose the vestibule freely, the urethral orifice and the vaginal tract particularly. Then again, it frequently harbors many bacteria, such as the bacillus diphtheriæ, staphylococcus, streptococcus, and B. coli communis.

The inflammatory process is general, involving simultaneously the vagina, hymen, urethra, cervix uteri, and sometimes the anal orifice. The inflammation may take an ascending course, in which event it sets up an inflammation in the endometrium. This eventually reaches the tubes and ovaries, and a possible peritonitis results. This occurs in a small number of cases—only one in about a hundred in our clinics.

The early symptoms may be so mild as to escape notice, but in most instances the symptoms are distinctive. At first there is itching and burning, and some complain of a sensation of weight in the genital tract. This is probably due to the edema present. There is a pronounced redness and edema of the external genitalia, and the hyperemia may extend to the inner sides of the thighs. The labia majora are swollen, sometimes almost glued together by a thick purulent discharge. This may be white or a greenish-yellow, with a very offensive odor.

The acute symptoms may be accompanied by a slightly elevated temperature, and after five or six weeks the condition develops into a chronic disorder. At this late stage the child becomes fretful, restless, very sensitive, presenting a picture not unlike a low-grade chorea. She begins to lose her appetite, with resulting loss of weight which may become extreme. The urine may be highly acid, thus adding to the local irritation.

In diagnosis, the microscope plays an important part. For the recognition of the type of infection, smears must be carefully examined by an expert bacteriologist. Diagnostic errors frequently have been due to carelessly prepared smears, poorly stained and incorrectly diagnosed. Smears should be made upon clean glass slides with a wire loop or cotton swab. A positive diagnosis of gonorrhea may be accepted if upon smear examination the following are found: pus cells with Gram-negative, intracellular diplococci with the typical morphologic characteristics of the gonococcus.

While specific vaginitis is in itself not a fatal disease in children, it may, when complicated, be very serious, and deaths have been reported from gonorrheal arthritis, peritonitis, sepsis, and endocarditis. The tendency to latency and recurrence must be emphasized, and therefore a long period of observation is necessary to establish permanent cure.

Few diseases in the realm of medicine have been subject to such great variation in the treatment and medicines employed. Many of the methods have been tried in our clinic, with varying results. Some have relieved after a long period of time, and others have failed sadly to accomplish what was expected of them. We have used the method of irrigating with potassium permanganate and bichlorid, but because of the small vaginal vault with tightly compressed walls, the solutions were expelled as rapidly as they were introduced. Silver nitrate and the speculum were given a trial, but we found that the less this type of child was manipulated the better. Therefore, there remained only the use of a substance which could be given with very little manipulation and at the same time be retained over a period of time. This was found to be one-per-cent mercurochrome in a lanolin base. We were agreeably surprised to find that sometimes after a week mercurochrome still remained in the vagina. Marked improvement was also noted in these cases.

One of the most important factors in the treatment of this condition is the home care and education of both parent and child. Our clinic, at least, has accomplished two things: first, the isolation of these cases, thus preventing contagion; and second, a thorough follow-up on the part of the public-health nurses, with resulting isolation from school.

A case of gonorrheal vaginitis in the school room, to my mind, is as dangerous as a case of diphtheria or scarlet fever. The child should sleep alone, and should be taught to cleanse her-

self properly. Daily tub baths and the use of clean undergarments should constitute a part of the routine treatment. Every child should wear a sanitary pad at all times, with instructions for its disposition. Our home treatment consists of daily boric-acid sitz baths. If the child is ill-nourished, which is usually the condition, cod-liver oil is administered. The urine is alkalinized with potassium citrate and soda bicarbonate when there is marked irritation of the vulva.

The results were quite gratifying after the use of mercurochrome, but it was noticed that cases would improve for some time, then relapse and remain stationary. Seeking a cause, smears were taken from the rectum, and in some cases were found to be positive for the gonococci. To combat this secondary area of infection, daily saline enemata were found to be most beneficial. With the introduction of this treatment, it was found that in from three to six weeks the discharge would practically disappear. A patient is not considered cured until she has been under observation from eight to twelve months, and has had at least twenty negative smears.

The use of mercurochrome in lanolin has many advantages. First, it is preferable to the instillation of fluids, since it holds the medication in contact with the diseased mucosa continuously and penetrates deeply into the folds of the vagina; second, it is a simple and painless method; third, mercurochrome is less irritating than silver nitrate, less astringent, and is equally germicidal. The ointment is placed in a hot-water bath, and then injected into the vagina by means of an ordinary glass irrigating syringe, to which may be attached a piece of soft rubber catheter. This tubing is introduced into the vagina without injury to the hymen, and is slowly pushed inward along the entire length of the vagina. Between 5 and 10 c.c. of the ointment is used. The exuded ointment serves as a protecting medium to the irritated vulva, and in this way the external genital structures do not require painting. A large vulva pad is then applied. These treatments are given weekly until the discharge disappears.

Conclusions

(1) Specific vaginitis in children results from indiscriminate contact with adults.

(2) On account of the extremely contagious nature of the disease, children should be isolated from school and placed under public-health control.

(3) The microscope is the essential requisite of every diagnosis, coupled with vaginal symptoms.

(4) The proper education of parent and child along hygienic lines is required.

(5) Treatment includes weekly instillation of mercurochrome and daily saline enemata, plus sitz baths, and last and most important, a persistent follow-up and faithful treatment until the condition is apparently cured.

370 Lehigh Avenue.

SOME INTERESTING CASES OF TUBERCULOSIS

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The following cases were chosen from the various medical services at the Children's Hospital as the most interesting examples of tuberculosis admitted after November 1, 1926. They present an opportunity to compare the clinical findings and diagnosis with autopsy findings and diagnosis—a procedure of considerable value originated by Dr. Richard Cabot at Harvard some years ago. There has not been any attempt to give the entire clinical or autopsy record, only a summary of the essential details in each case.

Case 1

G. R., negro, aged three months, full-term baby, normal delivery, had apparently been well until two weeks before admission. At that time a nasal discharge developed, followed in one week by a dry, hard cough. On the day before admission, several generalized convulsions occurred. The mother had active tuberculosis. The physical examination showed the child to be spastic, semistuporous, with sluggishly reacting pupils, slight neck rigidity, negative Kernig and Brudzinski signs, some evidence of consolidation of the left lung in the upper part of the lower lobe, and some fine moist râles through the bases of both lungs. The spleen and liver were both slightly enlarged; otherwise the abdomen was negative. Spinal puncture showed 12 cells, a slight increase in pressure, and negative globulin. The blood examination showed the following: red blood corpuscles 3,890,000, white blood corpuscles 20,750; differential—neutrophils 46 per cent, lymphocytes 18, large mononuclears 19, transitionals 4, nucleated reds 12; hemoglobin 70 per cent; polychromatophilia, and some variation in the size and shape of the reds. The x-ray showed much infiltration through the entire lung area. The Wassermann and tuberculin tests were negative. The convulsions persisted, and the child died two days after admission. The clinical diagnosis was pneumonia and meningismus.

The autopsy diagnosis was disseminated miliary tuberculosis of the lungs, liver, and spleen; fibrous pleurisy with beginning fibrosis; chronic bronchitis; parenchymatous nephritis; and fibrosis of the adrenals. The mediastinal lymph nodes were enlarged to the size of a pigeon's egg, and some were caseous. The liver and spleen were both infiltrated throughout with small miliary tubercles. Both lungs were infiltrated with miliary tubercles, and the left lower lobe showed an area of pneumonic consolidation. There were scattered areas of caseous necrosis which showed faint outlines

of lung tissue, but they were acute, in that there was little endothelial or connective-tissue response. In places, caseous necrosis was found in small quantities, including only one or two air sacks. Apparently the process had spread largely by way of the air vesicles. There was exudate in the bronchi which consisted mainly of mononuclears. The endothelial cells of the lungs showed the presence of tubercle bacilli which were long, slender, and beaded.

The mother of this infant died two months later with tuberculosis, and an older brother died three months later with miliary tuberculosis.

CASE 2

G. Y., white female, aged 2½ years, had a negative family history. Six months ago she had had an attack of vomiting and diarrhea. Since then, she had not seemed very well, and had not gained in weight. Five days before admission she began to vomit, seemed very tired, and was feverish and irritable. Two days later she became drowsy and would not sit up. Vomiting was persistent. The next day she seemed brighter in the morning, but in the evening became very comatose and could not be aroused. She did not talk, took very little fluid, and was quite constipated.

On admission, the child was comatose, the eyes fixed, the pupils reacted sluggishly, there was slight neck rigidity, positive Brudzinski and negative Kernig signs, and exaggerated knee jerk. The heart, lungs, and abdomen were essentially negative. The spinal fluid was clear, with increased pressure, 132 cells, 90 per cent lymphocytes, and positive globulin. The blood showed: red cells 3,070,000, white cells, 11,900; hemoglobin 60 per cent; differential—neutrophils 73, lymphocytes 20, large mononuclears 5. The Wassermann and tuberculin tests were negative. Three days later the patient was brighter and responded readily to questions. Seven days later she was more stuporous, with some rigidity of the neck, no Kernig, knee jerk active, and a few fine moist râles scattered over both lungs. The spinal-fluid cell count was 46, with 70 per cent lymphocytes and 30 per cent neutrophils. Ten days later ptosis of the right eyelid developed, the pupillary reflexes were absent, and the child had difficulty in swallowing. The cell count was 111. Twelve days later she could not be aroused. There was paralysis of the right side of the face and difficulty in swallowing. The left pupil reacted very little, there was no Kernig, and the cell count was 67. Thirteen days after admission there was marked rigidity of the neck, no opisthotonos, no Kernig, no Brudzinski, a temperature of 104°, and finally death. The diagnosis on admission was encephalitis or tuberculous meningitis.

The autopsy showed that death was due to tuberculous meningitis which was not so well defined as in typical cases. The primary lesion was apparently in the peribronchial lymph nodes and in the left apex of the lung. There was a fibrous pleurisy of the left lung, also tuberculous ulcerations of the large and small intestines. On removing the brain it appeared comparatively soft. On the base of the crura cerebri, pons, and medulla there was considerable thickening of the pia, with fibrinous exudate which extended up to the sphenotemporal lobe. There was also a patch of fibrinous thickening about 2 cm. in diameter on the median surface of the frontal lobe. Tubercle bacilli were found in smears from both of these situations. No definite tubercles could be found in the fissure of Sylvius. An occasional tiny white area suggesting a tubercle was found over the surface of the pia.

In the upper lobe of the left lung was an area of tuberculous consolidation which included a peribronchial lymph node. The upper half of this lobe was infiltrated with caseous nodules and fibrosis. On section, the caseous areas were seen to extend down to the root of the lung. The small intestine showed scattered tuberculous ulcers, limited to the Peyer's patches, in which the mucosa was completely destroyed. The cecum contained a large area about four inches long of diffuse tuberculous ulceration extending down into the lumen of the appendix, with considerable hemorrhage. The colon and sigmoid likewise showed scattered areas of ulceration.

CASE 3

A. C. was a colored female aged ten years. Her brother had died with tuberculosis three years ago. For four years the child had been in poor health, not gaining in weight, and with no appetite, etc. She had been in a hospital a year ago with some kidney trouble, and two months ago had begun to cough. She had some fever and lost weight rapidly. For the past month she had been confined to bed, complaining of pain in her left side just under her ribs.

Physical examination showed a poorly nourished child who appeared quite sick. The left lung seemed clear, but the right showed limitation of expansion with dullness on percussion at the apex down to the mid-scapular line. The breath sounds over this area were bronchial in character, with an area of tubular breathing in the right axilla, and many fine and coarse moist râles. At the right base the breath sounds were somewhat diminished. D'Espine's sign was suggestive. The abdomen was held quite rigid, with definite muscular spasm and resistance in the left flank, marked tenderness on deep pressure, with an indefinite, not clearly defined mass in the left flank extending from the costal margin down to the anterior superior spine. On account of the tenderness and muscular resistance it was very difficult to get a definite outline of this mass, or even to be absolutely sure it was present. On percussion, there was dullness over the left side of the abdomen which did not shift on change of position. There was not pain on extension of the left leg.

All urine specimens showed from 1 to 3 plus albumin, an acid reaction, numerous pus cells in the sediment from 6 to 75 per high-power field. The protein tests showed serum albumin positive, serum globulin negative, and proteose and peptones negative. No tubercle bacilli were demonstrable in the sediment. The blood count showed 3,400,000 red cells, 14,450 white cells, 65 per cent hemoglobin, 73 per cent neutrophils, 19 per cent lymphocytes, and 8 per cent large mononuclears. The white cells later increased to 32,700. The tuberculin test was positive, the Wassermann negative, and no tubercle bacilli were found in the sputum. The x-ray showed the right lung opaque as compared to the left, with a small clear area at the right base, numerous calcified spots throughout the chest, a small amount of fluid in the pleura, and possible beginning abscess. The temperature varied from 98° to 105°, with almost daily fluctuations. The clinical diagnosis was tuberculosis of the lungs and of the left kidney.

About three weeks after admission, the left kidney was removed. It was about four times its normal size and full of thick, grumous, creamy material. The pathologic report was as follows: size 10 x 8 x 6; appearance irregular and lobulated, with a considerable amount of hemorrhage over the surface. On section there was much cavitation. The exterior of the cavities was roughened and yellowish. Microscopically, a tuberculous process was observed in the medulla of the

kidney. Here there were typical tubercles, with some scarring. In the cortex there was much loss of kidney tissue, the glomeruli being sclerotic and the convoluted tubules being replaced by connective tissue. Tubercle bacilli were found in a smear from the kidney. The diagnosis was tuberculosis of the kidney.

The child developed some infection in the wound and ran a septic temperature for a time, but three months later was discharged from the hospital with the incision well healed and in fairly good condition.

Case 4

M. P. was a female aged 3½ years whose mother had died with tuberculosis. Two sisters had the disease, and this child had had a tuberculous lesion in the ankle a year ago which had partially healed. She had been in fair health until the onset of her present illness. The onset was acute, with a sore throat, persistent vomiting for two days, considerable fever, and refusal of food. In three days she became somewhat drowsy, and it was noticed that she did not move her right arm or leg. On examination she seemed feverish and was rather drowsy, but could be aroused easily and coöperated quite well. She was somewhat irritable when disturbed, but did not seem to have any pain. When let alone her eyes would close and she would lie very quietly. There was some redness of the throat. The pupils were equal and reacted well. There was very little rigidity of the neck. The lungs showed an apparently healed lesion at the right apex. The liver and spleen were not palpable. The right arm and leg seemed paralyzed (a flaccid type of paralysis) and dropped helplessly when raised. The child could not be forced to move them. The knee jerk on the right was absent. There was no Kernig and no Babinski, no ankle clonus, and the reflexes in the arm were all much diminished. On the left side all the reflexes seemed about normal. There seemed to be no change in sensation. The temperature was 100-4/5°. The blood examination showed: red cells 4,260,000, white cells 6,400; hemoglobin 80 per cent; polymorphonuclears 64 per cent, lymphocytes 22 per cent, large mononuclears 7 per cent, eosinophils 1 per cent, basophils 5 per cent. The spinal fluid was clear, though there was a moderate increase in pressure. There were 190 cells, of which 66 per cent were lymphocytes.

On account of the tuberculous ankle, the first thought in diagnosis was tuberculous meningitis; but because of the apparent acute onset, the practical hemiplegia with loss of reflexes, the sore throat and vomiting, and the lack of definite signs of meningeal irritation, a diagnosis of poliomyelitis was made.

Five days later, the child was much more stuporous and hard to rouse. She had some twitching of the left hand, and the right leg and arm were at times drawn up quite rigidly, during which time the rhythmic movements of the left hand and forearm became quite marked. She seemed to have more power in the right arm and leg than before. A very sluggish knee jerk could be obtained on the right side. There was no Kernig, no Brudzinski, no Babinski, no clonus. There was a little more neck rigidity, but very slight. The pupils were fixed and unequal—the left dilated, the right smaller. There was constant internal rotation of the right eye. The child had considerable difficulty in swallowing, and made guttural sounds in the throat. The right side seemed to have much less respiratory excursion than the left. There was marked increase in the respiratory and pulse rate, and the fever was higher —102°. It was believed that pneumonia was developing on the left side. The white blood count was 8,400. The spinal fluid was clear, with 106 cells, 64 per cent lymphocytes, 28 per cent polynuclears, 8 per cent mononuclears, and globulin positive. No tubercle bacilli were found in the smear.

Because of the marked stupor, the twitching, and the spastic contraction in the paralyzed arm and leg, the persistent high fever, and the rather prolonged course, the diagnosis was changed to encephalitis lethargica. A neurologic consultant gave encephalitis as the diagnosis because of the absence of typical signs of meningeal irritation. The child died rather suddenly about the twelfth day of her illness.

The preliminary autopsy report was encephalomyelitis, edema of the brain and cord, bronchopneumonia, and tuberculosis of the peribronchial lymph nodes.

The pathologic diagnosis was tuberculous meningitis, edema of the brain and cord, bronchopneumonia, hemorrhagic infarction of the lungs, healed tuberculosis of the spleen, and tuberculosis of the peribronchial lymph nodes.

Gross pathology of the brain. On opening the dura, all the superficial vessels were found to be congested and prominent. The right parietal lobe was somewhat more prominent than the left. The brain bulged out of the cavity. It was very soft and friable, with slightly excessive cerebrospinal fluid beneath the meninges. The gyri were somewhat flattened. The brain was pinkish gray and markedly edematous. Nothing of special note was found at the base. The choroid plexuses were prominent and edematous. The blood vessels all through the brain were somewhat injected.

Microscopic pathology of the brain. The meninges were thickened and extensively infiltrated with red blood cells, lymphocytes, endothelial leukocytes, and a large number of plasma cells. Several large congested vessels were noted. The chief lesions were associated with the blood supply. Some of the walls were greatly thickened and showed partial thrombosis. There was a tendency to separation of the intima, with subintimal infiltration with leukocytes. In some of these nodules there were foci of necrosis resembling caseation, and a few typical giant cells were present. Similar nodules were found diffusely distributed throughout the meninges. The process was most marked in the spinal meninges. In the brain proper there was a marked lymphatic infiltration of the capillaries. The Virchow-Robin spaces were dilated, filled with clear fluid, and entirely free from hemorrhage. There was some diffuse infiltration with leukocytes throughout the cortex. The nerve cells varied from entirely normal to extensive degeneration, with extrusion of the nucleus and neuronophagia.

Gross pathology of the spinal cord. When the vertebræ were opened, the meninges were found to be surrounded by a small amount of fat. They appeared to be of normal thickness, and there was no evidence of inflammation. When the meninges were opened, the vessels on the surface were found to be congested. The cord tissue was sectioned transversely, and was found to be very soft, edematous, and friable, and it bulged very markedly beyond the capsule.

Microscopic pathology of the spinal cord. The cells in the motor area of the spinal cord were for the most part well preserved, with extremely coarse tigroid granules. Occasionally a single cell appeared degenerated and surrounded by phagocytes. The white matter of the cord appeared normal, and the nerve roots were separated and infiltrated with lymphocytes and endothelial leukocytes.

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PERICARDITIS

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The most frequent cause of pericarditis in children above the age of three years is acute or subacute rheumatic fever. Fibrinous or serofibrinous pericarditis may be the only manifestation of rheumatic infection, or it may precede the development of symptoms referable to the joints. It is almost invariably associated with endocarditis. The exudate may be fibrinous, giving rise to the so-called dry pericarditis, or serofibrinous, with the accumulation of fluid within the pericardial sac. The exudate is never purulent. In rheumatic pericarditis the amount of exudate is usually larger than in other types of pericarditis.

Case Reports

1. Agnes S., a female white child eight years of age, of American parentage, developed acute tonsillitis three weeks before her admission to the Children's Hospital. During the second week of her illness she developed what was considered to be a left lobar pneumonia. On admission and examination, crackling râles were heard in both bases, with no evidence of consolidation. The apex beat was seen and felt in the sixth interspace within the nipple line. The left border of cardiac dullness extended to the midaxillary line, the right border one finger's breadth beyond the sternum. A cardiac friction rub was heard over the entire precordial area. A murmur of endocardial origin could be made out at the mitral area. She left the hospital seventy-nine days later, with definite evidence of mitral disease and cardiac hypertrophy.

2. Thelma C., a white child, six years of age, of American parentage, three weeks before her entrance into the Children's Hospital had developed an attack of tonsillitis, followed by acute rheumatic fever. During the course of the rheumatic fever, endocarditis developed. A few days before her admission the left side of her chest became dull on percussion, with bronchial breathing at the left base. The signs were interpreted as those of serous pleurisy or empyema. Paracentesis in the midaxillary line in the fifth interspace disclosed the presence of fluid, about 5 c.c. of serosanguineous fluid being withdrawn. On admission to the hospital, evidence of marked cardiac embarrassment was present, with dullness over the entire left chest and bronchial breathing over the left lower lobe posteriorly. A thrill and systolic murmur were present, with the apex beat at the sixth interspace just outside the nipple line. The area of cardiac dullness was increased both to the right and left, the left border extending to the midaxillary line. The patient was discharged forty-nine days after the onset of her illness, with no evidence of murmur or friction rub.

3. Chas. De V., ten years of age, a white boy of Italian parentage, has had repeated attacks of tonsillitis. Ten days before his admission to the Children's Hospital, he complained of sudden agonizing pain referable to the cardiac region. A few days later pain developed in the left knee. His condition became steadily aggravated, the cardiac pain being controlled only by morphin. On examination, the apex beat was noted in the fourth interspace, just inside the nipple line. The area of cardiac dullness was increased both to the left and to the right, the left border being at the midaxillary line. Bronchial breathing was noted at the angle of the left scapula. The pericardial sac was tapped, and 30 c.c. of serosanguineous fluid was withdrawn, with marked benefit to the patient's condition. He was discharged from the hospital thirty-nine days after the onset of the illness, with no evidence of cardiac disease.

4. Harry N., a white boy of Jewish parentage, eleven years of age, had had frequent attacks of tonsillitis. He was sent to the Children's Hospital because of severe pain in the cardiac area, fever, and shortness of breath of ten days' duration. Three weeks before his admission he had contracted tonsillitis. He had never had any joint pains. Physical examination revealed increased cardiac dullness, both to the left and right, the left border of dullness being in the midaxillary line. The apex beat could not be seen nor felt. Bronchial breathing just below the angle of the left scapula was noted. The day following his admission, cardiac embarrassment came on. The pericardial sac was tapped, and 25 c.c. of serosanguineous fluid was withdrawn. The following day a definite friction rub was made out. The child was discharged thirty-three days after the onset of his illness, with no evidence of cardiac disease.

5. Lulu F., fifteen years of age, of American negro parentage, contracted rheumatic fever one year before her admission to the Children's Hospital. She was admitted complaining of weakness and shortness of breath of several months' duration. She presented evidence of chronic valvular disease with mitral regurgitation and cardiac hypertrophy. Seventeen days after her entrance a double murmur appeared at the apex, coincident with a sudden rise in fever. One week later, the x-ray showed infiltration of both lungs, suggestive of tuberculous invasion. Repeated examination of the sputum was negative for bacilli. One week later the child coughed up about 20 c.c of bright red blood. At this time the cardiac area of dullness extended to the midaxillary line. No friction rub could be made out. Two weeks later, evidence of fluid in the pericardium developed. The sac was tapped to relieve her symptoms and 180 c.c. of serosanguineous fluid was withdrawn. Fourteen days later another tap was unsuccessful. The child, at this writing is in the hospital with effusion in the left pleural cavity, some fluid in the pericardium, and ascites.

Purulent pericarditis in children may develop at any age during the course of any of the septic blood-stream infections. The exudate is usually purulent and the affection, as a rule, terminates in death.

6. Robert R., three and a half years of age, a white American child, was admitted to the Children's Hospital complaining of pain in the left thigh of five days' duration, accompanied by fever. He was referred to the hospital with a diagnosis of early osteomyelitis of the left femur. At this time, except for the swollen and painful thigh and inguinal adenitis, the physical examination was negative. Four days after admission, an incision was made into the infected area and a subperiosteal abscess was found. Culture of the pus evacuated revealed a staphylococcus aureus. Blood culture was negative for organisms. The day following crackling râles were found over both bases. A second abscess was opened in the region of the right ankle. Blood culture revealed a staphylococcus aureus. Three days later a pericardial friction rub developed. Two

days later the rub disappeared, and the area of cardiac dullness rapidly increased in size. The apex beat was noted in the fourth interspace, with bronchial breathing over the left base. Paracentesis of the sac was done, and 75 c.c of serofibrinous fluid was withdrawn. Culture of this fluid gave a staphylococcus aureus. Death occurred four days later, ten days after the onset of the illness.

Pneumococcic pericarditis is not an infrequent complication of pneumonia, pleurisy, simple or serous, and empyema. The age incidence of this type is usually under three years. When effusion occurs, it becomes purulent. Infection of the pericardial sac here occurs, either by way of the blood stream, when the pericarditis may be a primary infection, or by contiguity, infection passing from the pleura, lymph nodes, or lymphatic vessels. Recovery rarely if ever occurs.

7. Fred M., a white infant, four months of age, of American parentage, was brought to the hospital for relief of cough accompanied by fever and vomiting. At birth the baby seemed to be normal, except for the presence of a large amount of mucus in the throat, accompanied by an expiratory cough. He gained normally until one month before his admission to the hospital, when the cough became much worse and the infant began to lose weight. Two weeks before admission, he lost weight very rapidly, and at times became quite cyanotic. He was unable to retain any of his feedings. Physical examination revealed a left apical pneumonia. The day following his admission, generalized edema developed. The area of cardiac dullness extended from one inch beyond the right border of the sternum to the midaxillary line on the left. The heart sounds were of poor quality and distant, with the apex beat in the fourth interspace. The pericardial sac was tapped, and 40 c.c. of serous fluid was withdrawn. Death occurred the same day. Autopsy confirmed the clinical findings.

8. Freda May S., a negro child, two years of age, had been ill for two weeks with cough and fever. Two days before her admission into the Children's Hospital the mother noticed some puffiness about the eyes. Later this edema involved the entire body. On examination, she presented evidence of a right apical pneumonia, with dullness over the right base. The heart was not definitely enlarged, but the sounds were slow and indistinct. Three days after admission the edema became more marked, and a high degree of cardiac embarrassment developed. The area of cardiac dullness increased to both right and left, and bronchial breathing appeared at the angle of the left scapula. The pericardial sac was tapped, and 50 c.c. of serosanguineous fluid was withdrawn. Culture of the fluid gave no growth. Death occurred the same day, nineteen days after the onset of her illness.

9. Clarence W., a white child, two years of age, of American parentage, was admitted to the hospital suffering from lobar pneumonia. One month before his admission to the Children's Hospital he contracted lobar pneumonia, the left lung being involved first. Later the right lung became infected. He improved slightly during the month following his admission, although the evidence of left-lung consolidation persisted. One month later the child developed the clinical evidence of pericardial effusion. Paracentesis of the pericardial sac was done, and 14 c.c. of thick yellow pus was obtained. Death occurred two days later. Culture of the purulent fluid revealed a type-1 pneumococcus.

805 Highland Building.

TALIPOMANUS*

(Congenital Club Hand)

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In the September, 1927, issue of the *American Journal of the Diseases of Childhood,* Martmer reports three cases of talipomanus in one family. I have a similar case in a boy of six years, who is also the unfortunate possessor of other physical defects.

Case of talipomanus.

Talipomanus, or club hand, is considered one of the less common congenital deformities, yet in 1912 Whitman collected more than 200 cases in the literature. Complicating deformities are frequent. The true congenital club hand with skeletal involvement is due to suppression of development of certain bones of the hand and forearm. In most cases it is the first row, including the radius, scaphoid, and trapezium, first metacarpal, and thumb, which have failed to develop.

* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Pittsburgh Session, October 4, 1927.

The patient is thirty-six inches tall and weighs twenty-eight pounds. Striking in contrast, his younger brother, only eight months old, weighs twenty pounds and is robust and normal in all respects. The mother and father are living and quite healthy. This comprises the immediate family. There have been no other children and no miscarriages. However, there is a cousin on the mother's side who was born with a similar condition of one forearm, and total absence of the other hand. This not only is consistent with

Showing other physical peculiarities of the child.

Martmer's observation that the condition is familial, but also that the trait is transmitted by the mother.

The child is peculiar in many ways. Not only is he very small and slight in stature, but he reveals a greatly undersized penis and his testicles have not descended. Also, he has an extraordinary facies, to wit, a small irregular-shaped head with rather small slanting eyes, just slightly suggestive of a Mongolian. However, he appears quite intelligent and observant. There are many verrucæ on his face and hands.

This case brings up an interesting problem. Why are evidences of endocrine dysfunction occasionally seen in cases of congenital malformations? I have noted this in a number of Mongoloids. Is it possible that this is a congenital malformation of the endocrine system, at least in one of its links?

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IMMEDIATE AFTERCARE OF POLIOMYELITIS

Dr. Walter J. Craig, orthopedic surgeon of the New York State Department of Health, offers some timely suggestions for the immediate aftercare of acute cases of poliomyelitis. He states that it is the general experience that many cases which at the outset seem hopeless go on under proper supervision to astonishing improvement, the gain extending over a period of some four or five years. Until this maximum of improvement through supportive treatment and careful muscle reëducation has been obtained, surgical procedures, generally speaking, are inadvisable. It is needless to add that all cases should be under the constant supervision of a physician throughout the entire course of treatment.

Dr. Craig gives the following rules for the care of the case during the acute stages:

(1) Absolute rest and quiet.

(2) Confinement to bed until pain and tenderness have completely left the affected muscle groups.

(3) Irreparable damage may result from too early or too strenuous treatment.

(4) Electrical treatments and massage are absolutely contraindicated during the stages of pain and tenderness.

(5) The affected muscles
- (a) should be kept warm and
- (b) should be supported in a position that permits no stretching.

(6) Measures should be taken to prevent
- (a) deformities of the hip due either to abduction or adduction of the leg and
- (b) foot drop (a plaster boot is the best preventive).

Warm saline baths are usually quieting. Should there be considerable muscle involvement with accompanying discomfort, the nursing problem is best handled and contractures prevented by putting the patient in a plaster bandage, well padded, from toe to armpits.

One of the most critical periods in the rehabilitation of the patient begins at the time when walking is permitted. At this time the following rules should be strictly enforced:

(1) Fatigue of the affected part must be avoided at all cost.

(2) Weakened abdominal muscles should be supported by an abdominal belt.

(3) Any tendency to curvature of the spine should be met at once with either a back brace or plaster corset, together with appropriate exercises.

(4) Before the affected parts are used, support by light and properly fitted braces must be provided.

(5) Properly graded and supervised exercises, active and passive, together with massage should be inaugurated some three weeks after disappearance of tenderness.

(6) Electrical treatments, save possibly the sinusoidal, are of questionable value.—*Health News.*

THOMAS GRIER SIMONTON, M.D.

Thomas Grier Simonton, President-Elect

Thomas Grier Simonton was born at Williamsport, Pennsylvania, June 30, 1870, son of Reverend William Simonton, Presbyterian minister, and Anna Grier Simonton.

His schooling included one year in the preparatory school of Washington and Jefferson College, followed by four years of college work, ending in 1892, in which year he received the degree of Bachelor of Arts from Washington and Jefferson College. While at the latter school he united with the Beta Theta Pi fraternity and was identified with many undergraduate activities. He received his Doctor of Medicine degree from the University of Pennsylvania in 1895, having become, while an undergraduate at that school, a member of the William Pepper Medical Society.

He served his internship at the Mercy Hospital, Pittsburgh, and was for three years, subsequent to 1896, associated with the late Dr. I. J. Moyer on the medical staff at Mercy Hospital. Dr. Simonton's hospital connections since that time include thirteen years' service on the dispensary and attending medical staff of the Children's Hospital of Pittsburgh, he being at present a member of the consulting staff of that institution. After serving for ten years on the medical staff of the Passavant Hospital, he resigned in 1910 to become a member of the medical staff of St. Francis Hospital, Pittsburgh, which connection continues at the present time.

From 1914 to the present time, Dr. Simonton has been connected with the University of Pittsburgh as associate professor of clinical medicine and assistant professor of medicine in its medical school.

He served the Pittsburgh Academy of Medicine as secretary, chairman of the program committee, and president. He has served the Allegheny County Medical Society as chairman of the program committee, as a member of its Board of Censors, and as delegate to the Medical Society of the State of Pennsylvania. At the 1907 session of the latter society, he delivered the Oration on Hygiene. He has since served as secretary and as chairman of the Medical Section, and as chairman of the Committee on Scientific Work from 1922 to 1927 inclusive.

During the World War, Dr. Simonton served as contract surgeon on the Cardiovascular Board at Camp McClelland, Anniston, Alabama, and he was chairman of the Medical Examining Board at St. Francis Hospital, Pittsburgh.

Early in his medical career Dr. Simonton became interested in the widespread abuse of the drug cocain. After a thorough investigation of the subject in the Pittsburgh district, he read his report before the Pittsburgh Academy of Medicine, which was later published in full in the *Philadelphia Medical Journal.* The article was later reprinted from the latter journal in a Sunday edition of the *Pittsburgh Gazette,* resulting in widespread publicity on the evils reported in the article and inspiring a number of editorial writers in prominent newspapers throughout the country to sound the alarm regarding the reckless distribution of cocain. As a result of this worthwhile contribution, a law was passed at the next session of the Pennsylvania Legislature, designed to curb and control the sale of the drug. As a result of his investigation, Dr. Simonton called attention to the traffic in cocain among denizens of the underworld arriving in Pittsburgh from other states, and similar laws were adopted by several states within the next few months. A few years later, the Federal Government adopted its Antinarcotic Law, which included almost in detail the suggestions and recommendations appearing in Dr. Simonton's first published article on this subject.

The outstanding work in the busy life of our president-elect bearing on the interests of the Medical Society of the State of Pennsylvania, is his service as chairman for six years of the Committee on Scientific Work. The scientific programs of our annual sessions in recent years, under his direction, have developed into models of graduate instruction to the general practitioner, grouped and presented with vision and decision, and have resulted in a magnificent increase in attendance and interest.

On June 26, 1912, Dr. Simonton married Luella P. Munhall, daughter of John Munhall, Pittsburgh. He is a member of the Presbyterian Church, Knights Templar, and the Republican party.

Dr. Simonton brings to the presidency of our Society, to which office he was chosen in 1927, a wealth of experience as a practitioner, a teacher, and a student, backed by an apparently unfailing reserve of energy, which, judging by his service to our Society during the past, gives promise, for the coming year, of new attainments.

THE ATLANTIC MEDICAL JOURNAL

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The JOURNAL does not hold itself responsible for opinions expressed in original papers, discussions, communications, or advertisements.

Editorials

TURNING BACK

There is a saying which begins "He who puts his hand to the plow and turns back," but the Medical Society of the State of Pennsylvania does not hold with this adage.

In April, 1923, the PENNSYLVANIA MEDICAL JOURNAL became the ATLANTIC MEDICAL JOURNAL, and the Medical Society of Delaware joined with us in issuing the publication under its new name. It was hoped that within the ensuing few years other state medical societies would be convinced of the advantages of a combination journal. Some there were in the group of Atlantic States which had no publication of their own, and reorganization was pending in others. The change had the endorsement of officers of the American Medical Association, and prospects seemed bright for the successful inauguration of a sectional journal.

Unfortunately, with the exception of Delaware, the other states did not feel that they were equal to bearing their share of the expense, or they were unwilling to submerge their individuality for the benefit of a joint publication, or they had under way other plans which prevented their joining the group. Much quiet work was done in the effort to convince them of the advantages of the plan, but to no avail.

After consultation with our Delaware colleagues, it was therefore decided that it would be best, under the circumstances, to return to the *status quo ante*. The association has been very harmonious and pleasant, and we regret the parting of the ways that have run together for five and a half years, but conditions have dictated a turning back. We hope that the coöperation with our erstwhile confreres in journalism may continue along other lines without interruptionn.

This is the last number of the ATLANTIC MEDICAL JOURNAL. With October, look for the PENNSLYVANIA MEDICAL JOURNAL upon your desk monthly.

THE ANNUAL MEETING

Oyez! Oyez! Oyez! This is the last call for the 1928 session of the Medical Society of the State of Pennsylvania, which will be held in Allentown from the first to the fourth of October. Attendance upon the annual meeting of your State Medical Society should be a big event in your year, and the officers are looking forward to a session teeming with interest.

The scientific program which appeared in the August number of the JOURNAL is unusually attractive, and we urge our members to read it carefully in order to determine what will best meet their needs. While much has been done to carry graduate instruction to all parts of the State through the activities of the component county medical societies, there are certain members who find it most difficult to attend their county medical meetings. Hence, too often they miss this very important postgraduate work brought to their own doors. To this group especially, the annual meetings of the State Society afford an unusual opportunity to hear papers and discussions on the recent advancements in medicine.

The opening pages of this number of the JOURNAL describe the arrangements for the session, the social events planned, and the many other points of interest in connection with a meeting held in a city new to the State Society. Should any one desire further information, a letter to the JOURNAL will bring it by return mail.

The first thing a member should do upon arriving in Allentown, after finding his hotel, is to visit the Registration Bureau in the basement of the Masonic Temple, register, and receive his badge, program, and information as to clinics, entertainment, and other activities. Much has been done by your hosts of the Lehigh County Society to prepare a royal welcome for you, and you should respond in kind by attending, taking your family with you. The Woman's

Auxiliary program will be full of interest for the women of the doctor's family. It is published in the Auxiliary department of this Journal, and promises a busy and happy week for those who attend the many functions planned.

The annual session provides to the members of the State Society an opportunity to imbibe scientific information, to keep in touch with the material advancement of the profession through the exhibits, and to make professional and personal friends throughout the State; but above all, it leads to a fellowship and coöperation which are essential to the welfare and improvement of any medical group.

PRACTICING MEDICINE WITH IMAGINATION

Imagination has long been conceded to be the most important characteristic of the writer, artist, and musician. Even the executive, it is said, never rises to greatness unless he is able to dream dreams and see visions. Strange, is it not, that this quality is so seldom extolled in the scientist or the medical practitioner?

Nevertheless, art cannot exist without imagination—and the leaders among the medical profession are stressing the place of art in the practice of medicine, saying that medicine is both an art and a science.

Of what value, too, is the observation of facts without imagination to interpret them? How can a working hypothesis be formed without an encompassing vision of the possibilities? And how often has the truth been discovered to lie beyond the realm of probability almost within the kingdom of the fantastic!

Standing, as are we of the present generation, on the verge of the great unexplored atomic cosmos, the few facts yet available stir the imagination of the scientific seer to its depths. Most of the phenomena with which we are familiar or over which we have control are phenomena of *disintegration*. Practical scientists are now beginning to talk of the necessity of studying the phenomena of *integration*. Not long since, it was axiomatic that the source of life was beyond human ken. Now researchers are holding out the hope that studies in progress at the present time may reveal at least some of the processes acting in the up-building of matter. The great integrator is life. Already, some are speculating as to the nature of this force, so ubiquitous and yet so little understood—that is, they are applying imagination to the interpretation of the limited facts within present cognition. This much, at least, has been determined: that the radiations of the electromagnetic spectrum play a vital part in both integration and disintegration; that they are a controlling factor in nutrition; that nutrition is a determining element in the production and conformation of the living creature; and that the study of this subject includes all phenomena which influence physical and mental development. So tremendous are the possibilities opening up at the present time that it taxes one's capacity to the utmost to envisage the things which may occur within the lifetime of those now on earth. Already, old ideas are being upset at an unprecedented rate; new discoveries are revolutionizing the practice of medicine; and it is difficult to keep from drifting to one side in the current of evolution.

Under these conditions, no grace can be so saving as a vivid imagination. Merely to read of the discoveries of others is not sufficient. The coöperative effort of all the world—both medical and lay scientific—is required to interpret the findings which are constantly coming to light and use them for the alleviation of suffering and the prolongation and improvement of life. Already many surgeons are applying in their practice what has been learned about the value of the ultraviolet ray, shortening the convalescence of their patients and lessening their postoperative discomfort. Fracture cases are now receiving the benefit of cod-liver oil, liver feeding, diathermy, massage and passive exercise, ultraviolet radiation, and in some cases, glandular therapy. Particularly in orthopedics is a realization developing of the great importance of nutrition, possibly even to the extent of eventually supplanting surgery in certain types of cases. Disease after disease has yielded to nutritive regulation, and immunization and nutrition are at present among the most fruitful fields of medical research. As additional facts develop and constructive imagination is applied to solving the health problems of humanity, doubtless the emphasis will shift more and more to the prevention of disease. Medicine, both as science and art, is trending that way now.

Not only in the physical, but also in the mental field is this transformation noticeable. The neurologist and psychiatrist are applying their imagination to the task of unraveling the tangled skeins of the human lives which come under their care. Perhaps in no other specialty is the need of a sympathetic imagination so great. But also in everyday practice is the physician's imagination called into play. Every case is a different problem, and many times the doctor must outguess his patient and read between the lines

of a none too frank confession. Even though the patient may be sincere, he may have misinterpreted. Then again is the physician's imagination taxed to sift the true from the false. But perhaps, most of all, his imagination should be employed in the finer tasks of human sympathy —to sense the unspoken and perhaps unrealized needs of the patient who turns to him for aid in his distress.

In every department of his profession, the need for imagination confronts the physician—research, interpretation, practice. Talking of some of these things to a promising young medical student, he said "I never thought of it that way." His professors were too busy teaching him facts to inspire him with enthusiasms. The technical and often sordid details are so wont to crowd out of our minds the idealistic side of medicine that we need once in a while to pause for a time and lift our eyes to the peaks, so that we may keep a proper sense of proportion. Medicine is an art, and it is that something which for lack of a better name we may term imagination which divides the great from the small. The great practice medicine with imagination.

REPORTS OF COUNCILORS AND COMMITTEES

In this number of the JOURNAL will be found the reports of the Councilors and the various committees. All of these should be carefully read, not only by the members of the House of Delegates, but also by the membership at large in order that they may be better informed of the many activities of our State Medical Society.

The Councilors are to be congratulated upon the very good showing of their respective districts. It is of interest to note the very few suits during the year for alleged malpractice. Attention is called, in the reference to Medical Defense on page 970, to the fact that "all approved applications in fracture cases this year were accompanied by statements that the defendant physician obtained the necessary x-ray picture before and after treatment." The secretaries of all component county societies are provided with x-ray release blanks to be used in all cases where x-ray pictures advised by the attending physician are, for any reason, not obtainable. Unless such release is secured, a member may not be defended by the State Society in case of suit for alleged malpractice. The courses in postgraduate instruction are vital, and have been well organized in some of the councilor districts. Every effort should be put forth to develop these courses in all districts, so that our members may receive the continuous advantages that would accrue therefrom.

The Committee on Public Health Legislation has rendered yeoman service, and its chairman has done everything humanly possible to carry to fruition its activities. The outstanding work of this committe has been in relation to the Healing Arts Commission, and those who have coöperated are to be congratulated upon the great service rendered. A pamphlet entitled "Danger Ahead," has been printed, and an allotted number sent to each county society secretary, with specific instructions to forward them to the members for distribution to their patients, preferably from the waiting-room table. This pamphlet outlines the position taken by organized medicine in the controversy on legislation relating to the healing art. It is apparent that there is some indifference and lack of work throughout the county societies in the distribution of the pamphlet. If properly distributed, it will do much good. The secretaries of the various county societies are urged to give all the coöperation possible in this regard.

The committee desires also to secure as many signed educational petitions as possible. There has been a decided apathy in sending these in, much of which is due to those members who are of the opinion that the result is not worthy of the effort. This attitude is erroneous. The committee has a definite and proper use for these petitions, and our members should realize the seriousness of their responsibilities in this matter. We cannot urge too strongly the need for each member of our State Society to throw his full strength into the field.

The Committee on Medical Benevolence has rendered financial aid to four members during the year. What a blessing this assistance has been! It is very evident that the fund administered by this committee needs to be greatly increased. An additional allotment to this fund is imperative.

The Committte on Mental Hygiene has labored diligently in keeping before the medical profession the Fifty-Million-Dollar Bond Issue. Its chairman has contributed an editorial for the JOURNAL each month of the year, the completed series covering the subject of mental hygiene, its scope and activities as they relate to the betterment of the care, study, and treatment of the mentally ill.

The Commission on Cancer has been very active this year, and its report should be carefully read. We cannot be too well informed upon the scope and activities of this commission in order that we may do our full share in cancer control.

The report of the Commission on Compensation Laws should be carefully digested in order that better coöperation may be secured in obtaining the results suggested in its recommendations.

We continually urge the necessity of coöperation with the pharmaceutical and dental professions. The recommendations of the Conference Committee with the Pennsylvania Pharmaceutical Committee should be adopted.

The Committe on Lay Education is unable to carry on without the necessary funds. An editorial to this effect in the August number of the Journal brought this matter forcibly to the attention of our members as one of the outstanding needs for increasing the per-capita tax.

In conclusion, we desire to stress the Secretary's report in regard to annual dues, showing the urgent need for increasing the per-capita tax. If we are to keep our State Society in the forefront of the activities increasingly demanded of organized medicine and meet our many obligations, we must have funds to see them through. Hence the demand for increasing the annual assessment. We cannot be a trailer; we must be out in front.

THE PROFESSIONAL SERVICES OF THE MENTAL HOSPITALS

It may be truly said that there are three important phases of efficient mental-hospital administration: (1) physical facilities and proper executive and fiscal administration; (2) scientific treatment, or professional services; and (3) educational activities, devoted particularly to methods of prevention, early recognition, and appropriate treatment of mental disorders.

For a hospital to function smoothly, surely the physical necessities must be supplied, such as appropriate and sufficient buildings for patients, officers, and personnel. Added to this, there should be a comprehensive fiscal and administrative policy, with sufficient funds to operate in accord with definite standards, thus insuring efficient professional service both within and without the institution.

Each phase is of paramount importance. The executive administration, the housing, feeding, clothing, and sanitary service are fundamental; the educational possibilities cannot be neglected; but the world looks to the professional service for complete study, diagnosis, appropriate treatment, care, and recovery of the patients, and rightly so.

This century has witnessed a great forward step in mental-hospital administration, especially in the professional services. The mental clinics in the field are the first-aid stations; the psychiatric and physical diagnostic clinics of our mental hospitals, with their laboratory facilities, x-ray service, dental, psychological, and social-service departments, provide an approach to the understanding of the disease which was lacking before; while the rest treatment, dietary procedures, psychotherapy, hydrotherapy, occupational therapy, heliotherapy, actinotherapy, recreation, diversion, athletic fields, swimming pools, etc., offer a choice of therapeutic facilities never before available.

Pennsylvania should be proud of the professional services of her mental-hospital system. Handicapped in many ways, they have yet carried forward the professional, the humane, and the scientific aspects of hospital administration. While it may be true that some are slightly in advance of the others, nevertheless, they all share alike in the honor of having laid the fundamental foundation on which future generations may build.

This, however, is but a beginning. Daily we glimpse new vistas of approach to the understanding and treatment of mental illness, and it would be most unfortunate if funds were not available to carry on this tremendously valuable phase of hospital administration to its fullest extent. The Medical Society of the State of Pennsylvania, which this Journal represents, has endorsed the fifty-million-dollar bond issue as the most satisfactory procedure for insuring the needed funds.

JOTS AND TITTLES

Medical Current Events

At the meeting of the Institute of Chemistry at Evanston, Ill., Major C. B. Wood, of the United States Army Medical School, reported that "succinchlorimid," developed by the Army and readily carried in tablet form, may be used to sterilize drinking water, probably eliminating the necessity of boiling it.

New Jersey officials are reported as favoring the establishment of a chain of roadside first-aid stations along the White Horse Pike. Physicians and hospitals of the locality are also said to favor this method of reducing the burden of caring for the numerous casualties caused by careless driving.

A study conducted by a leading life-insurance company shows that tuberculosis is the chief cause of death among office workers under the age of 45 years. In connection with the investigation, it was brought out that the preponderance of office workers are feminine, youthful, city-dwellers, and many of them are substandard physically; that there are 3,700,000 clerical workers, nearly half the number of industrial wage-earners; and that nearly half the persons in selected clerical occupations, according to the last census, were between the ages of 15 and 24 years. Among both male and female clerks the mortality was much greater between the ages 15 to 44 than for all the occupational groups combined. Tuberculosis of the lungs was the

most important single cause of death among both men and women, the rate being highest for this disease in the age group 15 to 24. Some reduction has occurred among male clerks for the years 1922 to 1924, when the mortality rate for the age group 15 to 44 was 62.1 per cent as against 70 per cent eleven years earlier. A corresponding reduction does not appear to have been made among women clerks. The same study has brought out the interesting fact that morbidity among boy babies is greater than among girl babies, but that women workers, especially young women, average more absent days due to illness than men workers, though the mortality is less among elderly women than men. The absence per case among men averaged 7.08 days and among women 4.41 days, though the cases of absence per clerk-year among women were 226 per cent of the male rate.

Dr. John H. Stokes, Philadelphia, has been selected as chairman of the recently organized Committee on Research in Syphilis. This committee will distribute annually through its subcommittees the funds made available by a group of donors, to subsidize and develop research in both the clinical and the laboratory aspects of the disease. All who are interested in the subject are cordially invited to send to the chairman pertinent suggestions as to problems to be undertaken, together with the names and records of investigators of promise. Applications for grants should be addressed to Dr. Stokes at 3800 Chestnut St., Philadelphia, Pa.

Publications

An "Index of Publications" has recently been issued by the Metropolitan Life Insurance Company, 1 Madison Avenue, New York City, which may be obtained on application to the Company. This organization has conducted extensive researches of various types for some years past, and various ones of their publications may be of considerable interest to physicians.

We wish to congratulate the State Department of Health, upon "A Manual for Expectant Mothers," recently issued, which was compiled by Dr. Mary Riggs Noble, Chief of the Preschool Division, Bureau of Child Health. The manual is written especially for the expectant mother, and is to be distributed to such women, in order that the pregnant woman may be properly instructed "what to know and do before the baby arrives."

The following very able advice appears. "The first and most important piece of advice for every expectant mother is: *Place yourself in the hands of a doctor at the very beginning and carry out the orders. Repeat the visit every month for the first six months; then go every two weeks until the last month, and then every week.* This should make the physician realize that the State Department of Health is doing everything it consistently can to urge the pregnant woman to seek the care of a physician at the earliest possible period of pregnancy, and to report to him regularly throughout the entire period of gestation. The unfortunate trouble is, that all physicians do not grasp the necessity for prenatal care, and appear very indifferent when the pregnant woman makes her routine visits. Too frequently he discourages the expectant mother in regard to proper prenatal care, rather than have her enthusiastically coöperative.

Puerperal morbidity and mortality are just as prevalent today as thirty years ago because all physicians who have pregnant women under their charge will not give them the proper prenatal car and attention, and see that early and proper help is afforded during labor and the puerperium. Early recognition and action during gestation will lower the morbidity and mortality incident to the toxemias of pregnancy.

If the physician does not afford the pregnant woman proper prenatal care, he must not criticize the State Department of Health for stepping in and doing so. The Department is advising all pregnant women to see their physicians, and to continue under routine care and observation. If the physician is negligent, then he has no one to blame but himself for not giving proper attention to the expectant mother.

The Other Side

In a debate, the winning team frequently is the one which gives the most consideration to the arguments of its opponents. The State Chamber of Commerce is at present conducting a poll of its members on the subject of the various bond issues to come before the voters of the State in November, among them the Fifty-Million-Dollar Welfare Bond Issue. In its ballot, the Chamber presents both sides of the case, and the appended arguments against the issue are taken from this source. There is no question that the medical profession favors the bond issue, but it is well to be prepared with a knowledge of the other side if these arguments are to be answered intelligently.

ARGUMENTS VS. WELFARE BOND ISSUE

1. The admitted need for more buildings at State welfare and correctional institutions can be—and is being—met by current appropriations, without imposing new taxes or increasing present levies.
   (1) During the present biennium there has been allocated for the erection of new buildings and improvements to existing structures, under the supervision of the Department of Welfare, the sum of $7,578,700, of which $1,660,200 is for repairs.
      (a) Auditor General Martin is authority for the statement that this amount can be increased to bring it in line with the rate of expenditure contemplated by the loan plan, namely, $10,000,000 per biennium.
      (b) He also believes that this amount can be appropriated by future State Legislatures without increased revenues.
   (2) The 1927 appropriations, excluding $1,334,700 for replacements and repairs, will increase the inmate capacity of state institutions covered by the bond issue as follows:

	Amount	*Increased Inmate Capacity*
Penal and correctional institutions	$1,448,000	878
Schools for mental defectives and feeble-minded	1,660,000	854
Hospitals for insane	2,060,500	823
	$5,168,500	2,555

      (a) This represents a very substantial increase over the biennial appropriations of 1923-1925 and 1925-1927, which increased the inmate capacity of such welfare and correctional institutions 628 and 703, respectively.
2. A capital-fund budget will tend to insure adequate appropriations for buildings at State welfare and correctional institutions.
   (1) The prospect of liberal balances in the general fund of the State Treasury will make possible adoption of a permanent-improvements budget covering a period of years.

(2) Public opinion educated to the needs of welfare institutions by the campaign for the bond issue, will insist upon legislative appropriations to meet these budgeted needs if uncared for by a loan.

3. Adherence to the capital-fund budget will avoid the disadvantages sometimes resulting from piece-meal construction under a "pay-as-you-go" policy, and will assure the State the benefits of long-term planning and large-scale construction of buildings at State institutions.

4. Financing new construction at State welfare and correctional institutions out of current revenues will effect substantial economies.

(1) At the end of the five biennial periods, the Commonwealth will have provided structures worth $50,000,000, and have paid no more for them.

(2) Under the loan plan, the Commonwealth will provide buildings worth $50,000,000 at an ultimate cost of $71,000,000.

(a) The premium of $21,000,000, or 42c per dollar, will be due to the interest charges on the proposed twenty-year serial bonds at 4 per cent.

False Modesty

Certain misguided police authorities have ordered off various bathing beaches of neighboring states mothers with their young children in sun suits. Since it is estimated that more than 90 per cent of children in large cities, especially in northern climates, suffer from rickets and since sunshine on the bare skin is rated as a specific for this disease, it is difficult to find any justification for such a stand on the part of police officers. Any one who can see anything immoral in the charming sight of a baby in a sun suit playing on a beach has a perverted sense of modesty, and most emphatic protests should be made against this ruling by the health authorities of the country.

The Problem of Old Age

The increasing life span is forcing on the attention of the medical profession, as well as the employer, the question of health in old age. The New York Academy of Medicine has been one of the first organizations to recognize this fact, and from October 1st to 14th will present a graduate fortnight on the problems of aging and old age. In addition to eminent speakers from various parts of the United States, there will be representatives on the program from Oxford, Bologna, and other foreign points. We regret that space prevents publication of the program, for it looks most attractive, but doubtless a copy can be obtained by those most interested by addressing the Academy at Fifth Avenue and 103d St., New York City.

The Session

Don't miss the Allentown meeting.....Don't fail to register.....The program is a fine one.....The city is a live one.....The exhibits have sold themselves; they will be worth seeing.....The Scientific Exhibit will be unusual—movies 'neverything.....The barbecue will be something new.....So will the Tuesday Evening Meeting.....The Legislative Committee will have a job for you.....The Lehigh County Society will have a surprise for you.....Delightful entertainments for the ladies.....We don't intend to tell any more incidents.....You'll have to come and see!

MEDICOLEGAL AND LEGISLATIVE NEWS

Medical Defense and Malpractice.—In his president's address, Dr. Michael J. Kenefick, of the Iowa State Medical Society, in referring to malpractice and medical defense, states: "Too often a doctor starts suit to collect a bill and the patient starts a counterclaim. Always wait for two years before starting suit unless you are sure that the patient has no case for counterclaim. The statute of limitation runs for two years, so that patient can counterclaim at the expiration of this time only to the amount of his bill. What are the causes for the instigation of suits for malpractice? First, a deadbeat looking for some easy money; second, the shyster lawyer, after the contingent fee; and third, sad to relate, the men in our own profession who make unfavorable comments upon the work of a competitor. The doctor who seeks to build up a good reputation for himself by attempting to injure the reputation of neighbors should remember the old adage that 'chickens come home to roost.' How can we best reduce the number of malpractice cases? First, by a little more coöperation among ourselves. Make no unfavorable comments upon results obtained by fellow practitioners. Second, since fractures are the occasion for the large majority of suits for malpractice, exercise the greatest precautions in treating fractures. Consider every case of fracture that you are called upon to treat as a potential case for malpractice, and begin then and there to plan your defense. Call consultation in all serious cases. Get a good x-ray of all fractures, before reduction, to aid in accurate diagnosis and, after reduction, to show results of treatment. The x-ray is now considered indispensable in the treatment of fractures. Remember that if you do not x-ray your fractures, someone else will do it, and here is where trouble often begins. Always give prognosis to patient in presence of consultants and reliable witnesses."—*Journal of the Iowa State Medical Society.*

Appellate Division Affirms Typhoid Damage Awards Against Albany.—The appellate division of the Supreme Court of New York State has unanimously affirmed the action of a supreme court jury which in November, 1926, awarded $2,000 to a minor and $1,000 to his father on the claim that the patient contracted typhoid fever from the drinking water of the city of Albany in April, 1924. Evidence was submitted to show that for over two weeks during that month polluted water from the bed of the old Erie canal entered cracks in the aqueduct running from the clear water well at the purification plant to the pumping station. Particular attention is called to the following paragraph contained in the opinion handed down by the court: "To insist that the plaintiff must establish that the infection came from the city water by positive proof would be to require an impossibility. It is sufficient if it is shown by the best evidence available that the bacilli were introduced into his system by means of the city water, so that the jury may by reasonable inference reach a conclusion to that effect. This is not speculation, but a process of logical deduction."—*Health News.*

Prosecutions for Illegal Practice.—Abe Mittleman, of Sheppton, is under $2,500 bail for trial this month in the Schylkill County courts for practicing medicine without a license and writing prescriptions for narcotics. Mittleman, it is declared, has an unsavory reputation covering several years of misconduct,

and has defied the courts in several counties because of alleged political influence.

According to *The Mirror,* official publication of the Fayette County Medical Society, on July 17th four Fayette County chiropractors quit the business as prescribed by the Fayette County Court. They are "Doctors" George Hackney, formerly of Uniontown, but now of Pittsburgh; Haught of Point Marion; Healy of Connellsville; and Marshall of Brownsville. They declared that they were perfectly willing to do as the court directed and that they had never cared to violate the statutes of the State. The violators of the law were directed by Judge Henderson to remove and store all equipment and furniture and refrain from practicing chiropractic until given authority to practice by the State. They were also directed to pay the costs of the proceedings.

G. T. Bell, of Masontown, another chiropractor, was fined $400 on July 24th and sentenced to the Fayette County jail for three months when he failed to appear at the time set for his sentence. According to the *Pittsburgh Post-Gazette,* he has since been paroled.

Medical Expert's Interest Not Shown by Being Frequently Called as Witness.—In the case of Murero v. Reinhart Lumber Co. (Cal. App.) 259 Pac. 494, the court held that cross-examination of a medical witness for the defendant in a personal-injury case is not admissible to show that the witness is frequently called as an expert witness on questions of medical jurisprudence in order to prove the interest of the witness. While the plaintiff might make any showing to place before the jury the interest of the witness, such a showing was not evidence tending to show his interest. As it would be material as fortifying the qualification of the witness and thus of strengthening the defendant's case, the plaintiff was not prejudiced by its rejection.—*Medical Journal and Record.*

Scope of Physician's Exemption Under Harrison Act.—The Circuit Court of Appeals, 5th Circuit, Bush v. United States, 16 Fed. (2d) 709, that the provision in Section 2 of the Harrison Antinarcotic Act exempting a physician dispensing drugs in the course of professional practice does not protect him if he dispenses the drug by writing a prescription for one who is not a bona-fide patient, and it is not for the purpose of treating him in the course of his professional duties. In such case violation of the regulations imposed by the statute for the purpose of facilitating the collection of the tax is an offense, and it is not necessary to show that the United States was actually deprived of revenue. The recent case of Linder v. U. S., 268 U. S., 5, relied on by the defendant, merely decides that a physician may give an addict moderate amounts of drugs for self-administration, if he does so in good faith and according to fair medical standards; but what constitutes bona-fide medical practice depends upon the facts and circumstances of each case.—*Medical Journal and Record.*

PUBLIC HEALTH

Clinic of Nervous and Mental Hygiene.—Thirty-two sessions of the Harrisburg Clinic of Nervous and Mental Hygiene were held during the past year with a total of 149 different patients who made 501 visits. Of this number, 77 patients were mental, 17 nervous, 6 epileptic, 23 had speech defects, and 26 received Binet tests. Twelve were over 16 years of age, 137 were under that age, and 27 had returned from the previous year. Forty of the patients were recommended to be placed in various schools and institutions as follows: State Hospital 1, Hershey Industrial School 6, Industrial Home for Crippled Children 1, Jefferson Hospital 1, special schools 19, Institution for Feeble-minded 2, Laurelton 2, Open Air School 1, Methodist Home 1, Scotland Orphanage 6. Of this number, 28 are known to have been placed as recommended, 2 have their petitions filed with the courts, 10 were diagnosed as noneducable, but not subjects for institutions, 10 were referred to hospitals, and 3 were referred to family physicians.

Activities of the Pennsylvania Department of Health.—Based upon complaints made by residents of Tinicum Township, Delaware County, drastic action was recently taken against owners of piggeries in that district. Conditions were declared to be a public nuisance and a menace to health. The pens were burned and the pigs released. The owners were given final notice thirty days prior to the official action. Thirty-two other piggery owners, in view of this measure, have decided to obey State orders and remove the site of their operations to more remote localities. They have been given until October 15th to complete this work.

The survey of the roadside eating stands recently completed by the Restaurant Hygiene Section indicates improvement in the type of stand employed. Apparently the public is constantly demanding higher standards of cleanliness and general appearance. This attitude, coupled with the Department's inspection and regulating power, has eliminated many of the poorer places and resulted in marked changes for the better in others. It is indicated, however, that increased demands on the part of the patrons will still greatly assist the Department in raising standards to even a higher level.

A manual for expectant mothers entitled, "What to Know and What to Do Before Baby Arrives," has recently been compiled by the Bureau of Child Health. It is circulated free. This pamphlet, if read, briefly dispels much of the ignorance which causes many maternal deaths.

Dr. W. G. Turnbull, Deputy Secretary of Health, in discussing the child patients at Mont Alto and Cresson, said, "But twelve per cent of those admitted were suffering from active tuberculosis, while practically all showed malnutrition and other conditions causing a suspicion of the disease. A very significant fact is that malnutrition is not any higher in the children coming from poor families than from those enjoying moderate circumstances. There appears to be no great need in the average family for an increase in the quantity of food afforded children, but more attention should be directed to the regulation of life and health habits including increased rest hours and a reduction of nervous strain and excitement to which children are most sensitive."

Under a recent ruling of the Post Office Department, specimens sent to the Department laboratories in Philadelphia for analysis will be considered as first-class mail and will be carried for four cents postage. Moreover, no special-delivery stamp is required, as formerly was the case. This, plus the old postal rate, makes a saving of twenty-two cents on each item.

As the result of a two-months' survey conducted by the Milk Control Division working in connection with Dr. J. A. Stevens, County Medical Director, a milk-control district was recently created in Beaver County. The county commissioners appropriated

000 to cover the expenses of the Board for a two-year period, this being the first instance in which county commissioners have taken such action. It blazes a new trail for safe milk.

The first unit of the Elizabethtown Hospital for Crippled Children is fast nearing completion. It is expected that the contractor will turn over the building to the Department not later than January, 1929.

The May Day activities, which not only covered the first of May but a number of weeks before and after that date, have just been compiled by the Bureau of Child Health. The following tabulation shows that an interesting piece of widespread work was accomplished by various agencies for the benefit of child health and welfare:

Community programs throughout the State	329 towns
New health clinics	61
Infants examined	2,915
Preschool children examined	7,485
Children vaccinated	440
Children given toxin-antitoxin	26,389
Crippled children found	366
Dental cleanings reported	188
Defects corrected	686

The bureau of nursing is now publishing a regular mimeographed nursing bulletin which is forwarded to the members of its staff and other interested parties. This publication is both attractive and informative.

Mr. W. L. Stevenson, the Department's chief engineer, reports that the Pennsylvania plans for the coöperative study of pulp and paper-mill wastes have been adopted by North Carolina through the execution of an agreement patterned after the one now in force in Pennsylvania. Negotiations are under way to coördinate the studies made by these two states.

The Incidence of Various Diseases at Different Ages.—In an attempt to obtain complete records of actual disease prevalence at different ages, the U. S. Public Health Service undertook a continuous survey of a general population group in Hagerstown, Md. Records were made of all of the illnesses which occurred among persons of different ages and of both sexes, and in so far as possible the cause was ascertained for each illness. The population group studied included about 8,000 persons, and it was canvassed continously by experienced field assistants for nearly two and a half years.

One of the most striking results was that respiratory illnesses accounted for over half of the illnesses at every age. Aside from the predominance of respiratory causes, particularly the so-called "common cold," it was found that each principal period of life is characterized by certain causes of illness. In childhood, illnesses, other than respiratory, are due chiefly to the communicable diseases, such as measles, whooping cough, chicken pox, diphtheria, and scarlet fever, to diseases and conditions of the skin, ears, eyes, and teeth, and to nervous and digestive disorders. In older ages, illness other than respiratory is caused by the so-called "organic group" of diseases and conditions—those of the circulatory system, nervous system, and the kidneys. Illnesses resulting from all of these causes are at their lowest incidence in adolescence and young adult ages. The only major causes which result in a higher rate of sickness in young adult ages than in any other age are puerperal conditions, and these, of course, relate to females only. Certain specific causes of illness do have their higher incidence of sickness in the young adult ages, such as venereal diseases, typhoid fever, and pulmonary tuberculosis, but compared with other causes, they do not result in a very high sickness rate.

This study also revealed that the human female is more often sick than the male in spite of her longer average duration of life, although this did not hold true for children under ten years of age. Boy babies and small boys were apparently more subject to infectious diseases, to diseases of the eyes, ears, and skin, to colds and other respiratory conditions, and to digestive troubles than were girls of the same age. But as soon as the adolescent period of life began, the sickness rate of the girls became higher than that of boys, and the female rate for practically all diseases was actually higher than that of the males throughout adult life. Women suffer more than men from sicknesses due to the common types of respiratory diseases, to digestive and nervous disorders, and to diseases and conditions of the kidneys and heart. This in spite of the fact that the death rate among older women is lower than that of older men.

There were some exceptions to this general rule for persons over ten years of age. One was that the frequency of accidents was greater among males than among females at every age of life. The proverbial greater adventuresomeness of boys was shown by the fact that in the age period of five to nine years the frequency of accidents of all kinds among boys was much greater than that among girls of the same age, but in adolescent ages the sex difference in this cause diminished considerably, although the accident rate of girls never exceeded that of boys.

Morbidity in Pennsylvania in July, 1928

Locality	*Diphtheria*	*Measles*	*Scarlet Fever*	*Typhoid Fever*	*Whooping Cough*
Aliquippa	2	4	1	1	12
Allentown	8	121	14	0	29
Altoona	2	89	3	2	12
Ambridge	0	1	1	0	6
Beaver Falls	0	2	0	0	0
Berwick	1	1	0	0	0
Bethlehem	2	12	1	0	9
Braddock	0	6	0	0	0
Bradford	0	2	0	0	14
Bristol	0	19	0	0	9
Butler	1	10	0	0	2
Canonsburg	1	0	0	3	0
Carbondale	0	0	0	0	0
Carlisle	0	0	0	0	0
Carnegie	0	0	0	0	0
Chambersburg	0	2	1	0	0
Charleroi	0	1	0	0	4
Chester	5	13	1	0	4
Coatesville	0	0	0	0	0
Columbia	0	1	0	0	0
Connellsville	0	0	1	0	0
Dickson City	0	0	0	0	0
Donora	0	0	0	0	0
DuBois	0	1	0	0	0
Dunmore	0	0	0	0	0
Duquesne	0	1	4	0	0
Easton	6	1	1	0	7
Erie	10	27	4	1	25
Farrell	0	1	0	0	1
Greensburg	0	1	2	0	0
Harrisburg	0	80	4	0	18
Hazleton	1	7	0	0	2
Homestead	2	3	1	0	5
Jeannette	0	2	1	1	0
Johnstown	9	33	0	0	16

Locality	Diphtheria	Measles	Scarlet Fever	Typhoid Fever	Whooping Cough
Lancaster	2	7	1	0	17
Lebanon	0	2	0	1	0
McKeesport	0	0	4	0	4
McKees Rocks	2	0	0	2	0
Mahanoy City	1	6	1	0	0
Meadville	0	0	0	0	0
Monessen	1	0	0	0	1
Mount Carmel	0	0	0	0	0
Nanticoke	0	0	0	0	0
New Castle	0	3	2	0	0
New Kensington	1	0	0	0	0
Norristown	6	170	0	4	14
North Braddock	3	9	0	0	0
Oil City	0	0	2	0	3
Old Forge	0	1	2	0	0
Olyphant	0	0	0	0	0
Philadelphia	96	522	59	10	350
Phoenixville	0	2	0	0	0
Pittsburgh	53	77	38	25	121
Pittston	0	0	0	0	0
Plymouth	8	1	3	0	0
Pottstown	0	9	2	0	0
Pottsville	0	5	0	0	0
Punxsutawney	0	0	0	1	0
Reading	4	16	3	0	76
Scranton	3	55	4	1	34
Shamokin	1	6	0	0	6
Sharon	0	0	0	1	0
Shenandoah	6	8	0	0	0
Steelton	0	15	0	1	1
Sunbury	0	10	1	0	4
Swissvale	0	1	1	0	2
Tamaqua	0	6	0	0	0
Uniontown	0	1	0	0	0
Warren	0	4	0	0	0
Washington	0	3	1	4	3
West Chester	7	57	0	0	7
Wilkes-Barre	6	10	0	0	13
Wilkinsburg	0	0	2	0	0
Williamsport	1	2	1	0	11
York	0	19	1	1	0
Total Urban	251	1468	168	57	842
Total Rural	146	1220	222	99	535
Total State	397	2688	390	156	1377

HOSPITAL ACTIVITIES

Shall Physicians Be Allowed to Remove Charts From the Hospital Record Room?—This question was asked by a superintendent who had had difficulty in preventing the loss or mutilation of the patients' charts. The custom in this institution had been to allow members of the staff to receipt for charts, and to remove them from the hospital. Loss of a part or the whole of a record had occurred, and the hospital was from time to time embarrassed by being unable to produce charts when required to do so by the courts. This is a vexing problem in many localities. Superintendents hesitate to refuse the loan of charts upon the request of staff physicians. However, even the most meticulous and careful doctor often mislays charts or loses some of their important sheets, and thus makes incomplete the hospital's records and embarrasses the institution when legal proceedings require the presence of hospital records in court. In institutions where a painstaking record keeper has time to follow up lost charts carefully and secure their return after a short time, the danger of loss may not be great. When there is no one upon whom absolute dependence can be placed to perform this function, it is far better to provide comfortable working conditions adjacent to the record room, so that a visiting physician may abstract the charts in which he is interested, without removing them from the hospital.

When a physician is subpenæd to present evidence in court relative to his knowledge of the medical or surgical treatment of a given patient, it would be better to give him a copy of the salient features of the chart rather than to loan the original, if there is any danger (and there usually is) that the latter may be lost. When difficulty in preventing the loss of patients' records has occurred, and if no suitable solution is at hand, the superintendent should be, and is justified in forbidding the removal of the chart of any patient from the hospital by any one.—*Modern Hospital.*

Can Vaginitis Be Safely Handled in the Children's Ward?—The treatment of vaginitis in the children's hospital presents a disturbing problem. The disease is actively infectious, and the ease with which it is transmitted places it in the category of conditions dreaded by all institutions caring for children. Most children's hospitals have rigid rules in regard to the detection of vaginitis in incoming children. Cervical smears are routinely taken, and suspicious cases are isolated until proved noninfectious. The difficulty in handling these patients is increased in hospitals which do not have isolation facilities. It can be said without reservation that it is an unwise step to endeavor to care for a case of vaginitis in a clean ward of a children's hospital, unless the most favorable conditions exist. In most hospitals where these cases are accepted (too few hospitals are willing to admit these children), an attempt is made to prevent the nurse caring for infected children from attending female children not so infected. Indeed, the intern handling these cases is not permitted to treat noninfected children.

If it is necessary, because of a complicating serious condition, to treat a child suffering with vaginitis in a ward with others, the most rigid aseptic technic must be adopted. This should include separation in an adjoining room, or by screens or curtains, or by partitions of wood and glass, hand scrubbing after treating these patients and before handling uninfected children, gowning, and careful handling of linen, dishes, and playthings. Theoretically, the vaginitis patient may be treated in wards with other children without rigidly carrying out all of these precautions, but practically, in consideration of the seriousness and chronicity of vaginitis, it is not wise to attempt it. It is a good practice to repeat bacteriologic examination of cervical smears at not longer intervals than three or four weeks. Nurses must be carefully instructed to be on the alert for the presence of vaginal discharges when bathing children, and should immediately report such findings to the supervisor. In one institution where twenty-five or thirty patients of this type are always under treatment, a separate floor is set aside for these children, with schoolroom, dining room, recreation and bathing facilities. There is no communication between this floor and other floors when noninfected children are being treated. To isolate vaginitis as rigidly as one might a case of scarlatina is to err, if at all, on the safe side.—*Modern Hospital.*

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

OFFICIAL TRANSACTIONS

Seventy-Eighth Annual Session

CALL TO THE 1928 SESSION

The first meeting of the 1928 House of Delegates of the Medical Society of the State of Pennsylvania will be called to order in the Masonic Temple (Consistory, First Floor), Allentown, on Monday, October 1, 1928, at 3 p. m.

In addition to the transaction of the usual business, the House will consider proposed amendments to the Constitution and By-Laws (see Secretary's Report and Report of Committee on Necrology, this issue).

Four delegates and alternates from this Society to the 1929 and 1930 House of Delegates of the American Medical Association will be elected. Under the triennial reapportionment of delegates from constituent state associations, our Society is now entitled to eleven delegates to the American Medical Association.

COMMITTEES OF THE HOUSE OF DELEGATES

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Jefferson H. Wilson, Beaver.
David Thomas, Lock Haven.

Reference Committee on Reports of Officers and Standing Committees

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John A. Holmes, Philadelphia.
Samuel P. Mengel, Wilkes-Barre.

Reference Committee on Scientific Business

Harold L. Foss, Danville, *Chairman.*
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Reference Committee on New Business

William H. Mayer, Pittsburgh, *Chairman.*
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*The offset names are the alternates, and where street address only is given, the name of the city follows the name of the county.

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Erie County (Erie)

B. Swayne Putts, 117 W. Eighth Street, *President.*
Joseph A. Stackhouse, 156 W. Eighth Street, *Secretary.*
Joseph A. Stackhouse, 156 W. Eighth Street.
Harrison A. Dunn, 230 W. Eighth Street.
Norbert D. Gannon, 349 W. Ninth Street.
Fred E. Ross, 134½ W. Ninth Street.

Fayette County (Connellsville)

George H. Hess, Uniontown, *President.*
George H. Robinson, Uniontown, *Secretary.*
Harry J. Bell, Dawson.
Charles H. Smith, Uniontown.

Franklin County

Royal H. McCutcheon, South Mountain, *President.*
Ambrose W. Thrush, Chambersburg, *Secretary.*
Frank N. Emmert, Chambersburg.
Lewis H. Seaton, Chambersburg.
Percy D. Hoover, Waynesboro.

Greene County

Linsey S. McNeely, Kirby, *President.*
William B. Clendenning, Waynesburg, *Secretary.*
Thomas N. Millikin, Waynesburg.
Rufus Edward Brock, Waynesburg.

Huntingdon County (Huntingdon)

A. Hank Evans, Saxton, *President.*
John M. Beck, Alexandria, *Secretary.*
Cloy G. Brumbaugh, 805 Mifflin Street.
John M. Keichline, Jr., 820 Fifth Street.
Charles R. Reiners, Fifth and Washington Streets.

Indiana County

Clark H. Smith, Plumville, *President.*
Alexander H. Stewart, Indiana, *Secretary.*
Alexander H. Stewart, Indiana.
Elmer E. Onstott, Saltsburg.

Jefferson County

Francis C. Smathers, Punxsutawney, *President.*
William A. Hill, Reynoldsville, *Secretary.*
John H. Murray, Punxsutawney.
Guy M. Musser, Punxsutawney.

Juniata County

Amos W. Shelly, Port Royal, *President.*
Brady F. Long, Mifflin, *Secretary.*
William H. Haines, Thompsontown.
Darwin M. Crawford, Mifflintown.
Brady F. Long, Mifflin.

Lackawanna County (Scranton)

Joseph C. Reifsnyder, Connell Building, *President.*
James E. O'Toole, Connell Building, *Secretary.*
Leonard G. Redding, Scranton Life Building.
Albert J. Winebrake, 322 Madison Avenue.
Howard W. Gibbs, 546 Adams Avenue.
John J. Brennan, 230 S. Main Avenue.
Merwyn M. Williams, Bliss-David Building.
Raymond J. Garvey, Union Bank Building.
James D. Lewis, 204 W. Market Street.
Arthur E. Davis, Dime Bank Building.
W. W. Probst, Dime Bank Building.

Lancaster County (Lancaster)

Richard Reeser, Columbia, *President.*
Charles P. Stahr, 139 E. Walnut Street, *Secretary.*
J. Paul Roebuck, 233 N. Duke Street.
*Harry B. Roop, Columbia.
Horace Clemens Kinzer, 128 N. Duke Street.
S. Gilmore Pontius, 320 N. Lime Street.
Jacob E. Hostetter, Gap, R. D. 1.
Dale Emerson Cary, 204 E. King Street.

Lawrence County

Franklin W. Guy, New Castle, *President.*
William A. Womer, New Castle, *Secretary.*
William A. Womer, New Castle.
Ernest U. Snyder, New Castle.
Jesse R. Cooper, New Castle.

Lebanon County

Franklin B. Witmer, Lebanon, *President.*
John D. Boger, Lebanon, *Secretary.*
J. DeWitt Kerr, Lebanon.
Seth A. Light, Lebanon.

Lehigh County (Allentown)

Howard B. Erdman, Macungie, *President.*
J. Treichler Butz, Hamilton Street, *Secretary.*
Frederick A. Fetherolf, 941 Hamilton Street.
Victor J. Gangewere, 2115 Hanover Avenue.
Louis C. LaBarre, 936 Hamilton Street.
Thomas H. Weaber, 211 N. Eighth Street.
William B. Trexler, Fullerton.
Mark A. Bausch, 235 N. Twelfth Street.

Luzerne County (Wilkes-Barre)

Maurice B. Ahlborn, 131 S. Franklin Street, *President.*
Edward W. Bixby, 292 S. Franklin Street, *Secretary.*
Samuel P. Mengel, 181 S. Franklin Avenue.
Francis T. O'Donnell, 348 N. Main Avenue.
Gordon E. Baker, 1250 Wyoming Avenue, Forty-Fort.
Elmer L. Meyers, 239 S. Franklin Street.
George R. Drake, Plymouth.
Frederick W. Roberts, Plymouth.
Charles H. Miner, 264 S. Franklin Street.
Lewis T. Buckman, 83 S. Franklin Street.
Herman A. Fischer, 316 S. Washington Street.
Samuel M. Wolfe, 218 S. Franklin Street.
Alfred W. Grover, Kingston.
John Howorth, 115 S. Franklin Street.

Lycoming County (Williamsport)

Lee M. Goodman, Jersey Shore, *President.*
Walter S. Brenholtz, 151 E. Third Street, *Secretary.*
John A. Campbell, 838 Funston Avenue.
Lloyd E. Wurster, Medical Arts Building.
Irwin T. Gilmore, Picture Rocks.
John P. Harley, 21 West Fourth Street.
Randall B. Hayes, Jersey Shore.
Frederick C. Lechner, Montoursville.

McKean County

Lawrence W. Dana, Kane, *President.*
Persis Straight-Robbins, Bradford, *Secretary.*
Francis DeCaria, Bradford.
Louis A. Larson, Kane.
Milo W. Cox, Kane.

Mercer County

William W. Wyant, Farrell, *President.*
Edith MacBride, Sharon, *Secretary.*
Edith MacBride, Sharon.
Patrick E. Biggins, Sharpsville.
William W. Richardson, Mercer.

Mifflin County

Halton C. Cassidy, Lewistown, *President.*
James A. C. Clarkson, Lewistown, *Secretary.*
Joseph S. Brown, Lewistown.
Charles J. Stambaugh, Reedsville.
Thomas H. Smith, Burnham.

Monroe County

Paul H. Shiffer, Stroudsburg, *President.*
Walter L. Angle, E. Stroudsburg, *Secretary.*
Charles S. Flagler, Stroudsburg.
Marshall R. Metzgar, Stroudsburg.

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*Deceased.

MONTGOMERY COUNTY

Robert P. Elmer, Wayne, *President.*
Edgar S. Buyers, Norristown, *Secretary.*
J. Newton Hunsberger, Norristown.
Winfred J. Wright, Skippack.
J. Elmer Gotwals, Phoenixville.
Herbert A. Bostock, Norristown.
J. K. Williams Wood, Willow Grove.
Elmer G. Kriebel, Norristown.

MONTOUR COUNTY

Charles L. Johnston, Numidia, *President.*
John H. Sandel, Danville, *Secretary.*
Harold L. Foss, Danville.
Robert S. Patten, Danville.
George B. M. Free, Danville.

NORTHAMPTON COUNTY (EASTON)

Frederick C. Roberts, 1109 Washington Street, *President.*
Theodore Reichbaum, 724 Northampton Street, *Secretary.*
Paul R. Correll, First National Bank Building.
William P. O. Thomason, 318 S. Thirteenth Street.
Victor S. Messinger, 253 Bushkill Street.
William L. Estes, Jr., Bethlehem.
Edwin D. Schnabel, Bethlehem.
Miller A. Sanders, Bangor.

NORTHUMBERLAND COUNTY (SHAMOKIN)

Daniel F. Heilman, Northumberland, *President.*
Charles H. Swenk, Sunbury, *Secretary.*
George W. Reese, State Hospital.
Horatio W. Gass, 910 Market Street, Sunbury.

PERRY COUNTY

Edward E. Moore, New Bloomfield, *President.*
Catharine Johnston, New Bloomfield, *Secretary.*
J. E. Book, Newport.

PHILADELPHIA COUNTY (PHILADELPHIA)

Isidor P. Strittmatter, 999 N. Sixth Street, *President.*
Henry G. Munson, S. E. Corner 21st and Spruce Sts., *Secretary.*
Moses Behrend, 1738 Pine Street.
Paul B. Cassidy, 2037 Pine Street.
Thomas M. Armstrong, 1815 S. Broad Street.
Orlando H. Petty, 1803 Pine Street.
William C. Ely, 3912 Chestnut Street.
Russell S. Boles, Rittenhouse Plaza.
George A. Knowles, 4812 Baltimore Avenue.
Harold W. Jones, 1426 Spruce Street.
Aaron L. Bishop, 5324 Vine Street.
F. Hurst Maier, 2019 Walnut Street,
Marion H. Rea, 141 Montgomery Avenue, Cynwyd.
Collin Foulkrod, 3910 Chestnut Street.
Howard Leon Jameson, 250 S. Seventeenth Street.
Stanley Q. West, 6312 Sherman Street.
L. Waller Deichler, Central Medical Building.
John A. Kolmer, Cynwyd.
G. Mason Astley, 5317 Master Street.
Francis J. McCullough, 1009 S. Forty-seventh Street.
George C. Yeager, 1419 E. Susquehanna Avenue.
Irving W. Hollingshead, 123 S. Eighteenth Street.
Harry C. Fish, 200 N. Fiftieth Street.
Seth A. Brumm, 818 Stock Exchange Building.
C. Howard Moore, 1729 Spruce Street.
Francis Heed Adler, 313 S. Seventeenth Street.
Jeannette H. Sherman, 1524 Medical Arts Building.
Rose Hirschler, 1831 Chestnut Street.
John Hancock Arnett, 269 S. Twenty-first Street.
Joseph C. Doane, Philadelphia General Hospital.
Louis Edeiken, 1923 Spruce Street.
Percy Starr Pelouze, 812 Medical Arts Building.
Ralph E. Getelman, 2011 Chestnut Street.
Samuel Ellis, 6203 Elmwood Avenue.
Frederick C. Smith, 6247 Haverford Avenue.
Sigmund S. Greenbaum, 1714 Pine Street.
Walter S. Cornell, 1919 Cherry Street.
Louis D. Englerth, 4912 Frankford Avenue.
Frederick S. Baldi, 2117 Porter Street.
Maurice J. Karpeles, 146 W. Chelton Avenue, Gtn.
John A. O'Connell, 2128 Pine Street.
Ralph H. Spangler, 2217 S. Broad Street.
James H. Baldwin, 1426 Pine Street.
John F. X. Jones, 103 S. Twenty-first Street.
Harry W. Goos, 2033 E. Dauphin Street.
G. Harvey Severs, 3401 N. Front Street.
John F. Roderer, 2426 N. Sixth Street.
Otto C. Hirst, 1244 W. Lehigh Avenue.
George H. Nofer, 1759 Frankford Avenue.
Thomas R. Currie, 512 W. Lehigh Avenue.
J. Norman Henry, 1906 Spruce Street.
Robert J. Hunter, 928 N. Sixty-third Street.
Mary M. Spears, 2049 Chestnut Street.
Henry G. Munson, 36th and Walnut Streets.
Herbert M. Goddard, 1531 Spruce Street.
Samuel A. Savitz, 2031 Pine Street.
Henry B. Ingle, 1937 Fairmount Avenue.
Joseph V. Klauder, 1934 Spruce Street.
John B. Haines, Medical Arts Building.
Percy Starr Pelouze, 812 Medical Arts Building.
William H. Morrison, 8021 Frankford Avenue.
William Oakley Hermance, 1831 Chestnut Street.
Eugene C. Murphy, 1841 S. Broad Street.
Wayne T. Killian, 4501 Spruce Street.
John M. Cruice, 2021 Pine Street.
Samuel Bolton, 4701 Leiper Street, Frankford.
Andrew Callahan, 1827 S. Broad Street.
Edwin B. Miller, 2008 Walnut Street.
Israel Binder, 708 Pine Street.
Robert S. McCombs, 1814 Spruce Street.

POTTER COUNTY

Dwight C. Hanna, Port Allegany, *President.*
Ross H. Jones, Coudersport, *Secretary.*
John H. Page, Austin.
Ross H. Jones, Coudersport.

SCHUYLKILL COUNTY

T. Lamar Williams, Mt. Carmel, *President.*
Arthur B. Fleming, Tamaqua, *Secretary.*
Christian Gruhler, Shenandoah.
Herbert H. Holderman, Shenandoah.
Merchant C. Householder, Pottsville.
J. Stratton Carpenter, Pottsville.
Harry H. Stewart, Pottsville.
John Rhoads, Ringtown.

SNYDER COUNTY

Percival Herman, Selinsgrove, *President.*
John O. Wagner, Beaver Springs, *Secretary.*
John O. Wagner, Beaver Springs.
Milton E. Wagner, McClure.

SOMERSET COUNTY

J. Earl Dull, Somerset, *President.*
H. Clay McKinley, Meyersdale, *Secretary.*
Fred B. Shaffer, Somerset.
Carl W. Frantz, Confluence.
Henry A. Zimmerman, Hollsopple.

SULLIVAN COUNTY

George C. Swope, Mildred, *President.*
Philip G. Biddle, Dushore, *Secretary.*
Justin L. Christian, 3632 Rutherford St., Harrisburg.
Carl M. Bradford, Canton.
Philip G. Biddle, Dushore.
George C. Swope, Mildred.

SUSQUEHANNA COUNTY

George W. Newman, Montrose, *President.*
Edward R. Gardner, Montrose, *Secretary.*
Robert B. Mackey, Montrose.
Abram E. Snyder, New Milford.
Harvey M. Fry, Rush.

TIOGA COUNTY

Harvey M. Hagedorn, Westfield, *President.*
Solomon P. Hakes, Tioga, *Secretary.*

D. Ritchie, Mansfield.
Lloyd Gamble Cole, Blossburg.
Farnham H. Shaw, Wellsboro.

Union County

Charles H. Dimm, Mifflinburg, *President.*
John W. Arbogast, Lewisburg, *Secretary.*
Amos V. Pershing, Allenwood.
D. Hastor Swengel, Lewisburg.

Venango County

Carm Y. Detar, Oil City, *President.*
Audley W. Ricketts, Oil City, *Secretary.*
Paul Bruner, Oil City.
John L. Hadley, Oil City.

Warren County (Warren)

Floyd G. Schuler, 210 Third Avenue, *President.*
R. F. Otterbein, 310 Third Avenue, *Secretary.*
Robert V. Mervine, Sheffield.
Erwin S. Briggs, 32 Water Street.

Washington County

John G. Kelso, Canonsburg, *President.*
Charles C. Cracraft, Claysville, *Secretary.*
William Douglas Martin, Dunn's Station.
John A. Douglass, McDonald.
Esten L. Hazlett, Avella.
Alexander Nelson Booth, Bentleyville.
William A. LaRoss, McDonald.
Samuel A. Ruben, Washington.

Wayne County

Frank C. Frisbie, Equinunk, *President.*
Alfred H. Catterall, Hawley, *Secretary.*

Westmoreland County

Stephen W. Nealon, Latrobe, *President.*
Charles D. Ambrose, Ligonier, *Secretary.*
Walter M. Bortz, Greensburg.
Paul G. McKelvey, Greensburg.
Josiah R. Eisaman, Greensburg.
Thomas St. Clair, Latrobe.
Winfield S. Bell, Latrobe.
Thomas W. Moran, Latrobe.

Wyoming County

Clarence L. Boston, Noxen, *President.*
L. T. MacDougal, Tunkhannock, *Secretary.*
William W. Lazarus, Tunkhannock.
Herbert L. McKown, Tunkhannock.

York County (York)

Oscar A. Delle, York New Salem, *President.*
Pius A. Noll, 117 S. George Street.
George E. Holtzapple, George and Princess Streets.
Charles Rea, 105 E. Market Street.
William H. Treible, 452 W. Market Street.
Samuel K. Pfaltzgraff, 442 W. Market Street.
Charles H. May, 1207 N. George Street.
Louis S. Weaver, 25 N. Duke Street.

REPORTS OF OFFICERS

REPORT OF THE SECRETARY

To the President and House of Delegates:

Membership

The total paid membership August 17, 1927, was 7,600; the total paid membership August 17, 1928, was 7,691, with the following component society distribution for 1927 and 1928 respectively: Adams County 27, 27; Allegheny County 1,286, 1,285; Armstrong 54, 52; Beaver 86, 89; Bedford 17, 10; Berks 135, 137; Blair 102, 106; Bradford 36, 37; Bucks 64, 65; Butler 55, 55; Cambria 162, 163; Carbon 26, 26; Center 24, 24; Chester 75, 72; Clarion 25, 25; Clearfield 64, 64; Clinton 22, 22; Columbia 34, 33; Crawford 47, 42; Cumberland 35, 37; Dauphin 165, 169; Delaware 112, 112; Elk 23, 23; Erie 144, 148; Fayette 123, 123; Franklin 53, 55; Greene 27, 28; Huntingdon 34, 34; Indiana 57, 55; Jefferson 50, 50; Juniata 9, 9; Lackawanna 228, 208; Lancaster 144, 143; Lawrence 66, 62; Lebanon 35, 32; Lehigh 117, 121; Luzerne 278, 300; Lycoming 111, 110; McKean 36, 35; Mercer 73, 71; Mifflin 27, 25; Monroe 15, 18; Montgomery 155, 162; Montour 28, 31; Northampton 136, 136; Northumberland 65, 65; Perry 16, 17; Philadelphia 2,050, 2,076; Potter 14, 13; Schuylkill 158, 160; Snyder 6, 5; Somerset 49, 45; Sullivan 6, 5; Susquehanna 19, 17; Tioga 29, 29; Union 12, 13; Venango 53, 52; Warren 43, 45; Washington 137, 140; Wayne 29, 27; Westmoreland 155, 173; Wyoming 10, 10; York 130, 136.

During the year we lost 100 members by death, 20 by removal, and 19 by resignation.

Seventeen societies show no change in membership; twenty-four, a gain; twenty-two, a loss. The following counties show a splendid increase in membership for the year: Luzerne, Philadelphia, and Westmoreland.

Medical Defense

Approved applications for defense against suits for alleged malpractice since September 1, 1927, total five, numbering from 191 to 195, inclusive.

Case No. 173.—Reported by the Secretary in 1927 as closed by a judgment of "non pros" has been reopened by another suit entered by the same plaintiff. Appearance has been made in behalf of our defendant member.

Case No. 191.—Summons served February 4, 1928. Court appearance made in due time. Plaintiff alleges constant pain in leg, due to delayed union, following compound comminuted fracture of the tibia and fibula.

Case No. 192.—Summons served June 22, 1928. Appearance made in due time. Plaintiff alleges mutilation of uvula and incomplete tonsillectomy.

Case No. 193.—Summons served July 3, 1928. Appearance made in due time. Alleges needle, broken during hypodermoclysis, was permitted to remain in tissue, resulting in pain and suffering.

Case No. 194.—Summons served March 6, 1928. Appearance made in due time. Plaintiff alleges deformity and shortening, due to improper treatment of fracture of femur.

Case No. 195.—Summons served March 6, 1928. Court appearance made in behalf of defendant in due time. Plaintiff alleges permanent injury as a result of faulty treatment of fracture of the femur. The defendant in this case was the roentgenologist before and after adjustment of fragments under anesthesia in case No. 194.

During the past year we have actually expended $1,175 in the defense of our members, and rebated $537.37 to the treasury of the Philadelphia County Medical Society.

There have been the usual number of requests for medical defense blanks by members fearful of threatened suits which have not materialized.

The following cases have been closed during the year.

Case No. 158.—The United States District Court entered a judgment of "non pros," and our attorney states, under date of October 29, 1927, that he believes "the judgment is now a final one."

CASE No. 175.—Plaintiff withdrew his case on the eve of trial. This happy conclusion to a case so briefly summarized in our report gives no suggestion of the amount of time, energy, and worry given by the defendant, by officers of the State Medical Society, and by attorneys retained, in preparation of a defense, which preparation often, by its very thoroughness, results in withdrawal of suit.

CASE No. 190.—The attorneys for the plaintiff being dissatisfied with the verdict of the arbitrators, demanded a cash settlement. The defense having refused to submit the same for consideration, the case was appealed to court by the plaintiff and placed on the February, 1928, trial list. Plaintiff withdrew his case on the eve of trial.

CASE No. 179.—Trial ended with a verdict for the plaintiff. Apparently the jury believed that the defendant omitted to insert the proper filters before applying therapeutic dosage of x-ray, and the resulting burns to be due to negligence. Defense filed motion for judgment "non obstant" and for a new trial. These motions must be disposed of before an appeal can be taken to a higher court. This case is therefore in litigation.

In contrast with last year's experiences, we are able to report this year that all approved applications in fracture cases are accompanied by statements that the defendant physician obtained the necessary x-ray pictures before and after treatment. Our members are again reminded that the secretaries of all component societies are provided with x-ray release blanks to be used in all cases where x-ray pictures advised by the attending physician are, for any reason, not obtainable.

Annual Dues

The State Society receives each year $5.00 of the dues paid by each member of its component societies. During the past year, each member's State Society dues were expended approximately as follows:

Salaries—Officers, Business Manager of JOURNAL and Annual Sessions, Clerical Assistants	$1.36
Publishing JOURNAL, less advertising income, but including Editor's salary	1.35
Standing Committees	1.06
Allotment to Medical Benevolence Fund	.90
Postage, stationery, supplies, auditing books	.38
Officers' travel expense	.29
Annual Session, less income from same	.14
Allotment to Medical Defense Fund, plus rebate to Philadelphia County Medical Society	.16
	$5.64

The 1928 expenditures in excess of receipts from annual dues were met by an appropriation from a cash fund held in reserve for emergency at 4 per cent interest, but they should in the future be provided for by an increase in dues. In addition to providing for the above administrative deficit, the annual allotment to medical benevolence should be increased to $1.00, and the annual allotment to medical defense to 25c. These provisions, plus increased expenditures in connection with the annual session and the annual conference of secretaries and editors, which have already been approved by the Board of Trustees, will more than absorb the income to be derived from increasing the State Society dues to $6.00 annually.

The amount of increase, namely, $2.50, recommended by the Board of Trustees, would in all probability in five years' time also increase the Endowment Fund of the Society to $75,000, and in addition provide a "nest egg" of $25,000 for a building, to be erected on the Society's property worthy of its location adjoining the State Capitol, that will not only adequately house our archives and a library, but which will also memorialize the contributions of our members to preventive and curative medicine and the sum total of human happiness —a building monumental in character, which will at one and the same time portray our gratitude for past achievements and our aspirations for the future.

Proposed Amendments

As published in the July JOURNAL with the "Call to the 1928 Session," action will be taken on a proposed amendment to Article 5 of the Constitution. In 1926 the House adopted an amendment to this article, which added to the ex-officio members of the House of Delegates (without the right to vote) the ex-presidents of this Society. At the 1927 session, President Morgan ruled that an ex-president of the State Society, if duly elected as a delegate to represent his component county society, was not entitled to vote. The proposed amendment specifies that an ex-president, who is not at the time a trustee or other officer, if duly elected a regular delegate, shall be accorded all the privileges of an accredited member of the House during the meeting for which he is elected.

The amendment to the By-Laws, proposed by the Committee on Necrology, will require the secretaries of the component societies to furnish the Secretary of the State Society with information regarding deceased members. At the opening session of the House, the Committee on Necrology will ask unanimous consent for action on this proposed amendment, after lying over one day.

Financial Report

GENERAL FUND

Balance on hand Sept. 1, 1927		$9,917.14
RECEIPTS		
Membership Allotment (7,841 members, inc. 150 for 1927)	$31,297.74	
20 shares Building & Loan stock matured Mar. 1, 1928 (for Endowment Fund)	20,000.00	
Journal	12,865.15	
Second Liberty Loan Bonds matured Oct. 1, 1928 (for reinvestment)	10,000.00	
Transferred from Medical Defense, Medical Benevolence, and Endowment Funds for investment	9,500.00	
Annual Session	5,861.25	
Reimbursement from Medical Benevolence Fund for vouchers Nos. 104, 244, 332	1,961.62	
Reimbursement from Medical Defense Fund for vouchers Nos. 109, 149, 150, 333, 345	1,712.37	
Rents—Hbg. property	1,380.00	
Balance from treasury Medical Legislative Conference	769.11	
Interest on deposits	381.84	
Miscellaneous	111.65	
Periodic health examination blanks	30.00	
		$95,870.73
		$105,787.87
DISBURSEMENTS		
Publishing Journal and Official Transactions	$22,505.19	
Salaries (exclusive of Editor's)	10,608.78	
Standing Committees, except Scientific Work Committee	8,374.47	
Annual Session	6,956.96	
Transfer of funds	4,288.69	
Officers' travel and expense	1,981.07	
Reimbursement Petty Cash Funds	1,336.47	
Stationery, supplies, equipment	868.75	
Auditing books	728.13	
230 State St., Harrisburg, taxes, repairs, insurance	625.59	
Councilor District meetings	448.80	
Rent	360.00	
Miscellaneous	115.00	
Bonding officers	93.75	
Reporting Tristate Conference	82.46	
Reinvestments	30,274.41	
Investments (1927 Fund allotments)	9,598.07	
		$99,246.59
Balance on hand Sept. 1, 1928		$6,541.28

GENERAL FUND—SPECIAL ACCOUNT

Balance on hand Sept 1, 1927	$11,040.80	
Interest to April 25, 1928	446.02	
Balance on hand Sept. 1, 1928		$11,486.82

ENDOWMENT FUND

Balance on hand Sept 1, 1927	$1,541.35	
RECEIPTS		
Interest on investments	643.75	
Interest on deposits	29.27	
Transferred from General Fund (net income from rents)	312.77	
Transferred from General Fund (Building and Loan shares matured)	20,168.30	
		$22,695.44
DISBURSEMENTS		
For investment		1,500.00
Balance on hand Sept 1, 1928		$21,195.44

MEDICAL DEFENSE FUND

Balance on hand Sept 1, 1927	$1,637.83	
RECEIPTS		
Interest on investments	2,028.12	
Interest on deposits	49.97	
From membership allotment	781.65	
		$4,497.57
DISBURSEMENTS		
For investment	$1,500.00	
Transferred to General Fund in payment of vouchers Nos. 109, 149, 150, 333, 345	1,712.37	
		$3,212.37
Balance on hand Sept. 1, 1928		$1,285.20

MEDICAL BENEVOLENCE FUND

Balance on hand Sept. 1, 1927	$6,825.41	
RECEIPTS		
Interest on investments	1,961.62	
Interest on deposits	181.32	
From Membership Allotment	7,003.11	
Balance after investment of funds ...	301.93	
Contributions: Drs. H. W. Albertson, D. B. Pfeiffer, Geo. J. Feldstein, R. C. Kirkwood, F. X. Jones, F. G. Hartman, D. S. Funk, J. V. McAninch, Daniel Longaker, J. H. Page, C. B. Smith, M. H. Weinberg; Woman's Auxiliary of the Medical Society of the State of Pennsylvania; Woman's Auxiliary of the following county medical societies—Allegheny, Beaver, Bucks, Cambria, Chester, Erie, Fayette, Lancaster, Lebanon, Lehigh, Lycoming, Philadelphia, Potter, Washington, York	1,731.00	
		$18,004.39
DISBURSEMENTS		
For investment	$6,500.00	
Transferred to General Fund in payment of vouchers Nos. 104, 244, 332	1,961.62	
		$8,461.62
Balance on hand Sept. 1, 1928		$9,542.77

DISBURSEMENTS
1927-8

Order No.		
1.	Baker, Young & Co., purchase of bonds for Medical Defense, Benevolence, and Endowment Funds	$9,198.07
2.	Hotel Schenley, rental 4 days, 77th annual session	817.50
3.	University Club, rental 3 days, 77th annual session	1,065.53
4.	Walter F. Donaldson, reimbursement a/c Secretaries' Conf.	88.20
5.	Chas. K. Melhorn, rental stereopticons	240.00
6.	Hen. Johnston, erecting commercial exhibit ...	725.00
7.	H. E. W. Bland, erecting scientific exhibit	350.00
8.	Miss F. E. Dillan, reporting	175.00
9.	Heeren Bros., 6 ebony gavels	86.35
10.	Swinston Co., buttons and badges	82.93
11.	Wilmot Castle Co., refund—exhibit	40.00
12.	E. B. Meyrowitz Co., refund—exhibit	37.50
13.	Geo. P. Muller, exp. guest speaker	20.00
14.	F. J. Bishop, exp. 3d Councilor Dist. meeting	18.13
15.	Nirella Orchestra, for President's reception ..	115.00
16.	Allegheny Co. Memorial Hall, rental annual session	$137.50
17.	Stanley Smith, exp. Sci. Work Com.	27.00
18.	Evangelical Press, for printing Vouchers Nos. 18, 28, 36, 51, 90, 117, 135, 152, 153, 210, 226, 232, 245, 246, 273, 286, 287, 306, 338,	2,026.18
19.	Jenkins Arcade Co., rent Secy's office, Vouchers Nos. 19, 40, 64, 98, 123, 141, 169, 216, 239, 274, 292, 311	360.00
20.	J. B. Lowman, B. & L. invest. Endowment Fund, Vouchers Nos. 20, 63, 93, 122	400.00
21.	American Surety Co., Premiums on bonds, Vouchers Nos. 21, 41, 161, 211	93.75
22.	Frank C. Hammond, exp. Editor	112.50
23.	H. W. Albertson, President's travel exp.	229.62
24.	Florence Milliken, exp. Registration Desk	10.00
25.	Mae Andrews, exp. 77th Session	59.30
26.	Hyacinth Beard, exp. 77th Session	62.26
27.	M. S. Blair, exp. 77th Session	87.94
29.	L. H. Newburgh, exp. guest speaker	34.50
30.	L. E. LaFetra, exp. guest speaker	51.24
31.	Jabez N. Jackson, exp. guest speaker	85.55
32.	C. B. Longenecker, exp. Asst. Secy.	51.35
33.	M. A. Slocum, exp. Sci. Exhibit	19.00
34.	J. L. Pomering, printing & supplies, Vouchers Nos. 34, 71, 75, 81, 88, 113, 114, 142, 177, 181, 195, 196, 197, 222, 241, 242, 243, 250, 284, 285, 303, 304, 339, 340	1,393.03
35.	E. S. Buyers, exp. meeting 2d Counc. Dist. ..	25.25
37.	Hyacinth Beard, salary, Vouchers Nos. 37, 60, 100, 125, 138, 171, 213, 236, 265, 289, 308, 323	1,600.00
38.	Mae Andrews, salary, Vouchers Nos. 38, 61, 101, 126, 139, 172, 214, 237, 266, 290, 309, 324	1,300.00
39.	Mary S. Blair, salary, Vouchers Nos. 39, 59, 99, 124, 137, 170, 212, 235, 264, 288, 307, 322	3,000.00
42.	Mildred Milheiser, salary, Vouchers Nos. 42, 62, 102, 127, 140, 173	516.88
43.	William Penn Hotel, exp. W. C. Alvarez, guest speaker	7.60
44.	Master Reporting Co., reporting	130.74
45.	Mary S. Blair, advanced a/c Mgr.'s expense	100.00
46.	Helen Daley, exp. Registration Desk	15.00
47.	Horner, Doyle & Wright, programs Sc. Ex. ..	80.10
48.	Walter F. Donaldson, exp. Secy.	29.32
49.	Lester Hollander, exp. Sci. Work Com.	27.00
50.	George M. Mackee, exp. guest speaker.....	40.30
52.	Geo. W. Grier, exp. Sci. Ex.	10.90
53.	J. M. Wheeler, exp. guest speaker	45.00
54.	Irene H. Snyder, reporting	253.10
55.	H. E. McGuire, exp. public meeting	5.00
56.	H. H. Seiferth, cloth sign, Inf. Booth	6.00
57.	Bell Telephone Co., tel. service 77th session ..	9.72
58.	Margaret Gastrock, clerical services	28.00
65.	Mrs. M. C. Repp, reporting	150.00
66.	H. W. Mitchell, exp. Trustee	27.34
67.	Walter F. Donaldson, exp. Secy.	27.00
68.	Evangelical Press, printing, publishing, & mailing Journal—Vouchers Nos. 68, 91, 116, 134, 151, 187, 209, 231, 269, 283, 315, 336, 337 ..	19,546.19
69.	Art Sign Co., exp. Sci. Exhibit	10.00
70.	Pinkerton's Detective Agency, services 77th session	63.75
72.	Cyrus Hungerford, Cartoon, Ped. Sec.	15.00
73.	Loyal A. Shoudy, exp. J. J. Moorhead, guest speaker	40.64
74.	J. M. Wainwright, exp. Com. on Cancer, Vouchers Nos. 74, 86, 130, 164, 218, 259, 298	240.50
76.	Anthracite Trust Co., purchase of bonds for Med. Def., Benev., & End. Funds	10,106.11
77.	Henry F. Helmholz, exp. guest speaker..	75.25
78.	A. C. Penny, mimeographing letters	2.75
79.	Thos. G. Simonton, exp.	37.00
80.	Mayo Clinic, exp. guest speaker	75.20
82.	Walter F. Donaldson, reimbursement Petty Cash Vouchers Nos. 82, 176, 294	502.12
83.	American Med. Assn., subscriptions for Freeman Com.	60.70
84.	T. F. Arnold, reporting	122.25
85.	Med. Benev. Fund, balance remaining after investment of funds	301.93
87.	J. J. Maglauchlin, paperhanging & repairs	194.99
89.	Mary S. Blair, reimburse, Petty Cash, Vouchers Nos. 89, 162, 251, 321	834.35
92.	E. G. Van Baman, reporting Freeman Com. hearing	226.00
94.	J. B. Lowman, Treasurer, salary, Vouchers Nos. 94, 166, 262, 326	250.00
95.	Walter F. Donaldson, Secretary, salary, Vouchers Nos. 95, 165, 261, 327	2,500.00
96.	Frank C. Hammond, Editor, salary, Vouchers Nos. 96, 167, 260, 328	2,500.00
97.	B. J. Myers, Legal Counsel, salary, Vouchers Nos. 97, 168, 268, 331	300.00
103.	Ida L. Little, salary, Vouchers Nos. 103, 174, 263, 329	570.00
104.	E. B. Heckel, int. on Med. Ben. Fund, Vouchers Nos. 104, 244, 332	1,961.62
105.	Walter F. Donaldson, travel exp.	64.66
106.	F. J. Bishop, exp. Trustee & Councilor	39.66
107.	A. E. Crow, exp. Trustee & Councilor	112.00
108.	Joseph Service Co., premium on furniture insurance	7.32

Order No.		
109.	Breene & Jobson, attorney's fee Med. Def. case 175	$500.00
110.	Grant L. Bell, auditing books	728.13
111.	J. H. Fertig, legal service	100.00
112.	Richard J. Beamish, publicity	100.00
115.	Lawrence Litchfield, exp. Trustee & Councilor	24.82
118.	Thos. G. Simonton, exp.	87.00
119.	Horner, Doyle & Wrignt, copies Pgh. Med. Bulletin	4.17
120.	Geo. H. Alexander, loose-leaf book	3.55
121.	W. M. Bunnell, preparing lease	10.00
128.	H. C. Westervelt, cablegram	7.20
129.	Horner, Doyle & Wrignt, copies Pgh. Med. Bulletin	23.14
131.	J. O. Bower, exp.	14.00
132.	Thos. G. Simonton, travel exp.	36.30
133.	Penna. Chamber of Commerce, dues	25.00
136.	U. S. National Bank, safe-deposit box	4.00
143.	Western Union Tel. Co. .... Vouchers Nos. 143, 155, 203, 248	39.50
144.	Walter F. Donaldson, travel exp.	27.00
145.	Walter F. Donaldson, reimbursement for telephone service Vouchers Nos. 145, 293	56.00
146.	The U. S. Daily, subscription for 2 years	15.00
147.	E. B. Edie, exp. Sci. Work Com.	21.00
148.	Damon B. Pfeiffer, Sci. Work Com.	9.85
149.	Wm. A. Challener, legal services in Med. Def. case 158	150.00
150.	Breene & Jobson, legal services in Med. Def. case 190	500.00
154.	J. T. Bretz, city tax	166.32
156.	E. J. Fryer, stenographic services	12.40
157.	Paul Correll, exp. Com. on Public Health Legis. Vouchers Nos. 157, 217, 227, 247, 257, 280, 299, 301, 347	3,821.78
158.	Thos. G. Simonton, exp.	82.50
159.	Lester Hollander, exp.	27.00
160.	Lawrence Litchfield, exp.	26.62
163.	Wistar Inst., exp. Com. on Cancer	15.00
175.	H. M. Stewart, exp. Pub. Hlth. Leg. Com.	19.50
178.	Walter F. Donaldson, exp. Pub. Hlth. Legis. Com.	64.83
179.	M. T. Leary, exp. Pub. Hlth. Legis. Com.	41.00
180.	Z. R. Scott, exp. Sci. Prog. Com.	27.00
182.	American Med. Assn., reprint	1.25
183.	Thos. G. Simonton, exp.	27.00
184.	Thos. G. Simonton, exp.	10.00
185.	John H. Murray, exp. Com. Pub. Hlth. Legis.	20.61
186.	Dictaphone Sales Corp.; dictaphone	212.80
188.	J. M. Keichline, exp. Com. Pub. Hlth. Legis.	12.00
189.	T. N. McKee, exp. Com. Pub. Hlth. Legis.	28.92
190.	H. W. Salus, exp. Com. Pub. Hlth. Legis.	38.44
191.	Lawrence Litchfield, exp. Trustee & Councilor	11.09
192.	Walter F. Donaldson, exp. Secy.	4.45
193.	Walter F. Donaldson, travel exp.	79.21
194.	McCloy Co., office supplies	4.50
198.	I. D. Kahle, exp. Mar. 9	24.96
199.	H. A. Bostock, exp. Mar. 9	13.76
200.	C. H. Bee, exp. Mar. 9	20.76
201.	G. L. Laverty, listing names	20.00
202.	T. G. Greig, exp. Mar. 9	28.76
204.	C. E. Taylor, exp. Mar. 9	19.00
205.	A. H. Colwell, exp. Mar. 9	25.32
206.	J. H. Boal, exp. Mar. 9	26.54
207.	J. R. Weldin Co. office supplies	5.00
208.	Horner, Doyle & Wright, Pgh. Med. Bulletin	157.09
215.	Frances Shields, salary, Vouchers Nos. 215, 238, 267, 291, 310, 325	543.90
219.	F. M. Highberger, floor plan	40.00
220.	W. W. Richardson, exp. Mar. 9	40.51
221.	E. H. Drozeski, exp. Mar. 9	36.50
223.	G. H. Hess, exp. Mar. 9	25.95
224.	G. H. Hess, exp. transcript of testimony	37.60
225.	Walter F. Donaldson, exp.	10.15
228.	Horner, Doyle & Wright, Pgh. Med. Bulletin, etc.	21.61
229.	F. De Caria, exp. Mar. 9	25.50
230.	R. M. Christie, exp. Mar. 9	28.38
233.	J. M. Quigley, exp. Mar. 9	14.24
234.	Walter F. Donaldson, exp. Pub. Hlth. Legis. Com.	149.51
240.	S. P. Hakes, exp. Mar. 9	20.58
249.	Stevenson Foster Co., office supplies	7.20
252.	Harnies & Salsbury, Comp. Insurance	15.00
253.	O. H. Perry Pepper, exp. Com. Sci. Work	18.00
254.	J. B. F. Wyant, exp. Trustee & Councilor	137.64
255.	Walter F. Donaldson, travel exp.	27.00
256.	Lester Hollander, exp. Com. Sci. Work	27.00
258.	H. W. Mitchell, exp. Trustee & Councilor	27.34
270.	O. H. P. Pepper, exp. guest speaker, 6th Counc. Dist Meeting	25.10
271.	H. C. Frontz, exp. 6th Counc. Dist. Meeting	16.95
272.	J. G. Logue, exp. Com. Sci. Work	25.94
275.	H. F. Oves, co. taxes	59.85
276.	D. B. Pfeiffer, exp. Com. Sci. Work	9.00
277.	Lawrence Litchfield, exp. Trustee & Councilor	29.88
278.	A. W. Wood, photo of diploma	2.29
279.	Lancaster Press, Inc., exp. Com. on Cancer	89.51
281.	Z. R. Scott, exp. Com. Sci. Work	27.00
282.	American Med. Assn., subscriptions	4.00
295.	Mary Reik, reporting Tristate Conf.	82.46
296.	J. T. Bretz, school tax	187.11
297.	B. A. Thomas, exp. Com. Sci. Work	15.00
300.	J. C. McAllister, exp. Mar. 9	$16.00
302.	T. G. Simonton, exp. Pres.-Elect	107.00
305.	J. B. McMurray, exp. Com. Sci. Work	49.00
312.	A. C. Morgan, exp. travel	535.53
313.	A. C. Morgan, office exp.	150.00
314.	J. B. McMurray, exp. Mar. 9	24.50
316.	H. M. Stewart, exp. Com. on Cancer	21.11
317.	C. G. Kerley, exp. guest, 7th Counc. Dist. Meet.	30.00
318.	G. E. Follansbee, exp. guest, 7th Counc. Dist. Meet.	40.00
319.	Lawrence Litchfield, exp. Trustee & Councilor	7.88
320.	Thos. G. Simonton, exp. Pres.-Elect	103.00
330.	Mary S. Blair, adv. Mgr.'s exp.	200.00
333.	R. P. Wilkinson, Treas., refund Phila. Co. Soc.	537.37
334.	Endowment Fund, net income real est.	312.77
335.	F. J. Bishop, exp.	53.30
341.	W. S. Brenholtz, exp. Trustee & Councilor	98.90
342.	Wm. T. Sharpless, exp. Trustee & Councilor	42.84
343.	Endowment Fund, transfer of funds	20,168.30
344.	Easton Printing Co., 125,000 copies "Danger Ahead"	788.90
345.	Wm. A. Challener, legal services	25.00
346.	F. J. Bishop, exp. meet. 3d Counc. Dist.	32.25
	Total	$99,246.59

Conclusion

Your secretary believes that the membership of the Society is welded more closely at the present time than ever before, this state of affairs being due largely to the untiring efforts of officers and committeemen throughout the State Society and its component societies in a common cause—the protection of the health interests of the people of Pennsylvania. Invitations and requests for the presence at scores of meetings throughout the State of the president and president-elect and the chairman of the Committee on Public Health Legislation have been cheerfully accepted, almost without exception.

More councilor district meetings have been held during the past year than ever before, and our membership is gradually recognizing the futility of continuing multiple district organizations, since the State Society has so widely and generously extended its service through its councilors.

In closing, we acknowledge our indebtedness to all the officers and committeemen referred to above, as well as to General Manager and Secretary West and other officers and officials of the American Medical Association.

WALTER F. DONALDSON, *Secretary.*

REPORT OF THE TREASURER

September 1, 1927, to September 1, 1928

GENERAL FUND

SPECIAL ACCOUNT

RECEIPTS

To Cash—Balance on hand at beginning of fiscal year	$11,040.80	
Interest on deposit	446.02	
		$11,486.82
WITHDRAWALS		.....
BALANCE ON HAND, September 1, 1928		$11,486.82

CHECKING ACCOUNT

RECEIPTS

To Cash—Balance on hand at beginning of fiscal year	$9,917.14	
Receipts during year	95,870.73	
		$105,787.87

DISBURSEMENTS

By Cash—Paid Vouchers Nos. 1 to 347 inclusive	$99,246.59
BALANCE ON HAND, September 1, 1928	$6,541.28

SPECIAL FUNDS

MEDICAL BENEVOLENCE FUND

Receipts

To Cash—Balance on hand at beginning of fiscal year	$6,825.41	
Receipts during year	11,178.98	
		$18,004.39

Disbursements

By Cash—Withdrawn for investment and benefits	$8,461.62
Balance on Hand, September 1, 1928	$9,542.77

MEDICAL DEFENSE FUND

Receipts

To Cash—Balance on hand at beginning of fiscal year	$1,637.83	
Receipts during year	2,859.74	
		$4,497.57

Disbursements

By Cash—Withdrawn for investment and Defense	$3,212.37
Balance on Hand, September 1, 1928	$1,285.20

ENDOWMENT FUND

Receipts

To Cash—Balance on hand at beginning of fiscal year	$1,541.35	
Receipts during year (including maturity of Building & Loan Investment—$20,000)	$21,154.09	
		$22,695.44

Disbursements

By Cash—Withdrawn for Investment	$1,500.00
Balance on Hand, September 1, 1928	$21,195.44

SUMMARY

Total Cash Balances on Hand, September 1, 1927	$30,962.53	
Total Receipts During Year	131,509.56	
		$162,472.09
Total Disbursements		112,420.58
Total Cash Balances, September 1, 1928		$50,051.51

CASH BALANCES AND INVESTMENTS

September 1, 1928

CASH BALANCES

General Fund, Special Account	$11,486.82	
General Fund, Checking Account	6,541.28	
Medical Benevolence Fund	9,542.77	
Medical Defense Fund	1,285.20	
Endowment Fund	21,195.44	
Total		$50,051.51

INVESTMENTS

Medical Benevolence Fund

Registered Liberty Bonds, Third Series, 4¼%, Serial Nos. 70846-7-8-9, Par $1,000	$4,000.00	
Registered Liberty Bonds, Third Series, 4¼%, Serial Nos. 115,909-10, Par $100	200.00	
Registered Liberty Bonds, Fourth Series, 4¼%, Serial Nos. 198563-4-5-6-7, Par $1000	5,000.00	
American Telephone & Telegraph, 5½%, Serial Nos. 81983, 59558, 28598-9-28600, Par $1000	5,000.00	
Chicago, Milwaukee & St. Paul Ry., 5%, Serial Nos. 6178-9-80, Par $1,000	3,000.00	
Baltimore & Ohio R. R., 4¾%, Serial Nos. 27406-7-8-9-10, Par $1,000	5,000.00	
Illinois Central R. R., 4¾%, Serial Nos. 1592-3-4, Par $500	1,500.00	
Illinois Central R. R. 4¾%, Serial Nos. 28011-12, Par $1,000	2,000.00	
Buffalo, Rochester & Pittsburgh, 4½%, Serial Nos. 15588-26637, Par $1,000	2,000.00	
Pennsylvania Railroad, 5%, Serial No. 1964, Par $1,000	1,000.00	
Wabash Railway Co., 5%, Serial Nos. 6852-3, Par $1,000	2,000.00	
Canadian National Railway, 4½% Serial Nos. M-62993-2, Par $1,000	2,000.00	
Southern Pacific Co. Equip't Trust, 5%, Serial Nos. 10028-10327-11217-12370, Par $1,000	$4,000.00	
Chesapeake Corporation, 5%, Serial Nos. 40706-7-8-9, Par $1,000	4,000.00	
Total		$40,700.00

Medical Defense Fund

Registered Liberty Bonds, Fourth Series, 4¼%, Serial Nos. 324243-4-5, Par $1,000	$3,000.00	
Coupon Liberty Bonds, Fourth Series, 4¼%, Serial Nos. 1382125-1385611-1385612-13-14, Par $1,000	5,000.00	
American Telephone & Telegraph, 5%, Serial Nos. 55087-8-9-90-1-2-55093-4-56792-3, Par $1,000	10,000.00	
Illinois Central Railroad, 4¾%, Serial No. 1595, Par $500	500.00	
Pennsylvania Railroad Co., 5%, Serial Nos. 21470-1-2-3, 48549-50, Par $1,000	6,000.00	
New York Central Equipment, 4½%, Serial Nos. 12551-15351, Par $1,000	2,000.00	
Lehigh Valley Railroad, 5%, Serial Nos. 84178-9-80-81, Par $1,000	4,000.00	
Canadian National Railways, 4½%, Serial No. M-62994, Par $1,000	1,000.00	
Chesapeake Corporation, 5%, No. 40705, Par $1,000	1,000.00	
Western Pacific Railroad, 5%, Serial Nos. M-8204-5044-45-10347-18971, Par $1,000	5,000.00	
Total		$37,500.00

Endowment Fund

Registered Liberty Bonds, First Series, 4¼%, Serial No. 1653, Par $5,000	$5,000.00	
American Telephone & Telegraph, 5%, Serial No. M-24901, Par $1,000	1,000.00	
Pennsylvania Railroad Co., 5%, Serial No. 21649, Par $1,000	1,000.00	
Chicago & Northwestern, 4¾%, Serial Nos. 132938-134029-137409, Par $1,000	3,000.00	
Great Northern Railway, 4½%, Serial Nos. 3894-5, Par $1,000	$2,000.00	
Canadian National Railways, 4½%, Serial Nos. 62995-6, Par $1,000	2,000.00	
Total		$14,000.00
Total Investments in Securities Held by the Treasurer		$92,200.00
Total Cash Balances and Investments		$142,251.51

(In addition to the above the Society holds title to the property at 230 State Street, Harrisburg, occupied by the office of the Atlantic Medical Journal.)

Respectfully submitted,

J. B. Lowman, *Treasurer.*

REPORT OF THE CHAIRMAN OF THE BOARD OF TRUSTEES

To the President and House of Delegates:

Your Board reorganized October 6, 1927, electing the undersigned chairman, and Dr. Walter S. Brenholtz clerk. Drs. Brenholtz and Litchfield, Councilors for the Seventh and Tenth Districts, respectively, elected for a term of five years, were presented to the Board. Dr. Frank G. Hartman, of Lancaster, elected for one year, to fill the unexpired term of Dr. Theodore B. Appel, was also presented.

At this meeting, the Secretary was instructed to prepare a brief to be submitted to the Board at a special meeting prior to the first hearing of the Freeman Commission.

At this meeting the following resolution was unanimously adopted: "It is the sense of the Board of Trustees that former members of this Board and the Treasurer be invited to attend all Board meetings, to advise, and to discuss questions, but without the right to vote, the expenses incurred by such attendance, except at meetings of the Board occurring during annual sessions, to be paid out of the general fund."

The budget submitted by the Finance Committee was, with several amendments, adopted.

The Board decided to postpone, until a later regular meeting, final action upon the following recommendation of the 1927 House of Delegates: "That the Board of Trustees be authorized to add $1 or more to the annual per-capita tax to meet the expenses of the annual sessions."

The Chairman announced the appointment of the following standing committees: Finance Committee: Drs. Donald Guthrie, chairman, Walter S. Brenholtz, and F. J. Bishop; Publication Committee: Drs. F. C. Hammond, chairman, J. B. F. Wyant, and Lawrence Litchfield; Executive Committee: Drs. H. W. Mitchell, chairman, F. G. Hartman, and A. E. Crow; Benevolence Committee: Drs. H. C. Frontz, chairman, J. B. F. Wyant, E. B. Heckel, and Walter F. Donaldson; the chairmen being chosen by the respective committees.

At a special meeting held in the Society's building in Harrisburg, October 26, 1927, attended by thirteen members and former members, the brief prepared for presentation before the Freeman Commission was read and discussed, amended, and adopted paragraph by paragraph, and the Secretary was instructed to have the brief issued in the most attractive form possible. President Morgan was deputized and instructed to give verbally a digest of the brief at the hearing, and to present to each member of the Commission an envelope containing a copy of the brief, together with approved printed pamphlets on subjects relating to the regulating of the practice of the healing art. Solicitor Myers, who was present at the special meeting, was instructed to be present at the hearing. President Morgan was authorized to consult with Dr. John A. Kolmer of Philadelphia regarding the presentation before the Commission of the rebuttal testimony covering the accepted historic triumphs of medical science in the cure and prevention of disease. Before adjournment, all members of the Board were urged to attend the Philadelphia hearing of the Freeman Commission.

At the regular meeting of the Board held in Harrisburg, December 6, 1927, after much discussion of reports presented by the Secretary and each Trustee and Councilor, it was decided that the increase in the annual per-capita assessment to the State Society should be $2.50, beginning with the payment of the 1929 county society dues. This increase, in the judgment of the Board unanimously expressed, being justified by the following: first, assumption by the State Society of additional expense for entertainments at annual sessions; second, development of a lay-educational service; third, increased allotments from each member's dues to Funds—Benevolence, Defense, and Endowment; and fourth, annual conference at Harrisburg of county society secretaries and editors. At this meeting a motion was adopted instructing Drs. Hammond and Morgan to request the Philadelphia County Medical Society to agree to accept, in the future, a rebate on each member's dues to the State Society on a basis of fifty per cent of the State Society's per-capita allotment to the Medical Defense Fund for the current year. This proposal was later rejected by the Philadelphia County Medical Society, and the State Society continues in the anomalous position of rebating to them 25c per member annually, although our allotment to the Medical Defense Fund for the last two years has been but 10c for each member.

After much discussion of the outcome of the Philadelphia hearing of the Freeman Commission, plans for the conduct of the case for the so-called allopathic physicians at the Pittsburgh hearing of the Commission were placed in the hands of a committee, who were instructed to request the American Medical Association to participate in the hearing, through the offices of Secretary Woodward, of the Bureau of Legal Medicine, and Secretary Colwell, of the Council on Medical Education and Hospitals. Our Society is indebted to the American Medical Association for its prompt response, and for providing for the presence and service of the above-mentioned secretaries during the hearing.

At the regular quarterly meeting of the Board of Trustees held February 7, 1928, much time was devoted to a discussion of the plans proposed by the Committee on Public Health Legislation, and a Conference with the chairmen of such committees of the component societies was authorized to be held in Harrisburg early in March.

Our regular quarterly meeting was held in Harrisburg, May 28, 1928, at which time announcement was made of the return, October 1, 1928, to the former title under which our monthly journal was published; namely, the PENNSYLVANIA MEDICAL JOURNAL.

After much discussion of the report presented by Chairman Correll, the following resolution was unanimously adopted by a rising vote: "That we approve the work to date of Chairman Correll and his Committee on Public Health Legislation in their efforts to maintain the existing high licensing standard of the healing art in Pennsylvania, and assure him of our continued confidence in the Committee's efforts toward success in this difficult but important duty.

At all regular meetings of the Board, reports were received from the Secretary, District Councilors, and the Board's Standing and Special Committees.

We have been able this year to meet the extraordinary expenditures incidental to the activities of the various standing committees only by appropriations from a fund heretofore held in reserve, at interest, for emergencies. We believe that the financial history of our Society during the past fifteen years substantiates the assertion that the administration of its finances by its trustees during that period may be justified by a favorable response to its recommendations for an increase in the annual dues.

WILLIAM T. SHARPLESS, *Chairman.*

REPORT OF PUBLICATION COMMITTEE

To the Board of Trustees:

The Publication Committee is very well pleased with the continued efficiency with which the JOURNAL is functioning.

The primary object of the JOURNAL is service to each member of the State Society: to convey to him each month a well-worth-while publication that will cover the activities of the State Society, what is being accomplished by organized medicine, and the individual responsibility he must assume, and to furnish a satisfactory scientific treatise.

The following report of the business manager to the Board of Trustees, affords an excellent report of the activities of the JOURNAL office for the fiscal year.

"The year 1927-28 has been one of the busiest in the history of this office. The JOURNAL, of course, has occupied the greatest amount of time, and we believe speaks for itself. No effort has been spared to make it a publication of which the Society may be proud, and the following account of the activities of the business manager's office may be of interest in this connection.

"The 189 scientific articles published were collected from secretaries, reporters, and individual writers.

Stenographic reports of discussions were submitted to their authors for correction. Every paper was carefully edited and a large number of them were entirely rewritten. Illustrations were planned with care, and halftone cuts ordered. Proof was submitted to the authors, and their corrections faithfully noted. All discussions were abstracted and rewritten.

"Editorials were sometimes solicited, and the business manager personally supplied 35 editorials during the past year, some of them the result of considerable investigation. With the assistance of the editor and one associate editor, the special departments have been compiled monthly. This means that a tremendous amount of material must be read and abstracted to provide the condensed items presented in these departments. The number of individual items (one of which may at times be gathered from a dozen different sources) has been as follows: Jots and Tittles 136, Medicolegal 94, Physiotherapy 11, Public Health 97, Hospital Activities 44, Industrial Medicine 43, Education 2, Organization Activities 4, the American Medical Association 1, the Army 2—a total of 434.

"Most of the 96 county society reports have been rewritten, and the editor and business manager of the Journal have coöperated with the editor of the Woman's Auxiliary department in collecting and preparing her material. With the assistance of the editor, some of the officers, and interested members of the Society, 833 news items have been collected during the past year and compiled in this office. Books to the number of 48 have been sent to appropriate reviewers and the reviews collected and edited. All material, in short, which has gone into the Journal, in whatever department, has received careful editing and proof reading, and during the year upwards of 1,100 galleys of proof have been corrected and double-checked.

"The make-up of our growing publication, which comprised 1,430 pages during the past year, requires an intimate knowledge of the Journal, a sense of proportion, judgment, and a taste for puzzle-working. We have endeavored to minimize the amount of filler material, to eliminate redundancies, and to keep the number of pages within bounds. It must be admitted that this latter task is difficult, owing to the increasing size of our program and the growing popularity of our Journal.

"Management of the advertising has developed into a sizable job. During the year 1927-8, the net amount of advertising has increased to 387 pages, due to the high quality of journal maintained, to the assistance of the Coöperative Medical Advertising Bureau, and to persistent solicitation carried on by this office. Form letters have been sent out several times to 1,100 advertisers to the medical profession, and so far as time permits, personal letters have been written to all promising prospects. The growth of the advertising department has been slow but steady and substantial. The greatest problem is to secure the interest of our members in this department. Advertising of reliable firms only is accepted, and we believe that this valuable section of the Journal merits more attention on the part of our readers. Reader interest assures advertising income. The make-up of the advertising pages has been studied in order to produce the most effective use of the space available. Advertisers are billed monthly, and collections have been made one hundred per cent. Up to this writing, which includes the collections for only eleven months of the year, there has been a gain of $482.97 in advertising income over the best previous record for the same period.

"The membership, mailing, and subscription lists have accounted for several days' work monthly, as there were in the neighborhood of 1,000 corrections to these lists. The net gain in paid circulation from January to June, 1928, over the same months of the preceding year was 141. This we credit partly to the membership campaign conducted in coöperation with the secretary. Lists of all nonmembers throughout the State were compiled and sent to county societies for checking. To all approved names letters from the secretary, inviting the recipient to become a member, were sent, together with membership application blanks and sample copies of the Journal. To date, 46 county societies have returned their lists, and 156 physicians included in the lists have become members. Lists have not yet been returned from the following county societies: Allegheny, Blair, Columbia, Clarion, Crawford, Greene, Indiana, Jefferson, Lackawanna, Lancaster, Montour, Philadelphia, Snyder, Susquehanna, Union, and Venango. Assurance has been received, however, that Allegheny and Philadelphia have been stirred to activity and are handling the matter within their respective territories.

"Although the price per page remains the same, we have this year been obliged to run 150 pages more than in 1926-7, and the cost of printing the Journal has mounted to $17,562.34 for the first eleven months of the year (the bill for September not having been received before publication of this report).

"The technical work for the return to the name Pennsylvania Medical Journal has been completed. Cover design and new heads for the Journal are in type, and all necessary arrangements have been made. New stationery and forms for conducting the business of the Journal have been printed, and everything is in readiness to make the change smoothly and without friction.

"In addition to publication of the Journal, the membership list and official program are printed under the direction of the secretary's office, and an occasional bulletin is issued under the auspices of one of the Society's committees. Only 2,500 health-examination blanks have been sold this year, and we should recommend that special attention be given this subject."

The committee desires to express appreciation to the associate editors for their continued coöperation. To the reporters of the various county medical societies we are especially indebted for wonderful coöperation, in making the county medical societies reports more than worth while.

We cannot express too freely our appreciation of the loyalty and devotion of Miss Blair to the best interests of the Society and its official journal. To Miss Beard and Miss Andrews, her associates, we are indebted.

Respectfully submitted,

Frank C. Hammond, *Chairman,*
Jay B. F. Wyant,
Lawrence Litchfield.

REPORT OF THE BUSINESS MANAGER

To the Board of Trustees:

The past year has been one of the most productive since the Harrisburg office of the Society was established. Naturally, the Journal has occupied the major portion of the time, and the activities incidental to its publication have been fully reviewed and the report thereon included in that of the Committee on Publication published in this issue of the Journal, to which those who are interested are referred.

Second in importance are our duties in connection with the annual session, and long before the completion of work on the 1928 session, plans have been under way for the 1929 meeting. Our Society has grown so large that only a few cities in the State are able to accommodate our needs, and it was deemed advisable that the business manager make a survey of those cities in which the Society has been invited to meet before the place of meeting is finally decided by the House of Delegates. Under the direction of the Board of Trustees, this survey has now been completed for 1929, prices have been secured, and all arrangements have been made tentatively, subject to the approval of the Committee on Place of Meeting and the House of Delegates.

It was necessary to visit Allentown three times to complete the arrangements for the 1928 meeting, and we have every reason to believe that the plans will go through without any hitch. Fourteen meeting and exhibit halls have been reserved, a contractor has been engaged to put up the exhibits, another will handle lantern demonstrations, the exhibit floor plans have been laid out, special arrangements have been made to store and deliver freight and express, a caterer has been engaged to serve luncheons at the headquarters, signs have been drafted and a sign painter engaged, a staff of porters and janitors will be supervised by a capable assistant, 84 exhibit spaces have been sold, collections made, and the placing of exhibits and arrangement of meeting halls will be personally supervised by the business manager and staff. An orchestra and caterer have been engaged for the President's Reception. Hotel reservations have been made for over fifty officers and guests. Expert stenographers have been engaged to report the scientific proceedings. Supplies have been ordered, and a thousand and one details have been looked after which lack of space would prevent reducing to paper.

For the past year, the Society's building in Harrisburg has required considerable care. A number of repairs, mostly minor ones, have been made, and the recent death of one of the tenants has necessitated finding another.

The motto of the office is service. It is our pleasure to coöperate in every possible manner with the officers and committees, and to be of use to our members. Many inquiries on all kinds of subjects have been replied to during the year. A number of meetings have been held in the building, and information desired has been obtained from our files and in many cases from sources outside the office.

With our many and varied activities we keep busy and happy, and if we have been able to add by never so little to the sum total of progress we shall feel well repaid for our efforts.

Respectfully submitted,
M. S. Blair, *Business Manager.*

REPORTS OF INDIVIDUAL COUNCILORS

DR. FRANK C. HAMMOND, PHILADELPHIA, COUNCILOR FOR THE FIRST DISTRICT

To the President and House of Delegates:

During the year the First Councilor District has continued its high-grade scientific programs, and the attendance has been uniformly good.

Your Councilor would again call attention to the number of medical societies in the First Councilor District, and the fact that their meetings and activities tend to interfere with the greater and better attention which would be given to the Philadelphia County Medical Society if there were a diminution in the number of the other medical societies.

The question of medical defense, during the year, very fortunately has not been a factor.

DR. WILLIAM T. SHARPLESS, WEST CHESTER, COUNCILOR FOR THE SECOND DISTRICT

To the President and House of Delegates:

The Councilor for the Second Councilor District has been called upon to conduct the defense of one case of alleged malpractice in Bucks County. This case has been on hand for a considerable time and was vigorously defended in court. An adverse verdict for a considerable amount was rendered by the jury against a member of our society. An application has been made for a new trial, but the court has not yet passed upon this application.

We believe that good work is being done in all the county societies in this district. Some are much more active and more interested in professional matters and in the legislative program of the State Society than others. The legislative committees in most of the societies seem to appreciate the importance of the work which will come before the next session of the Legislature. I believe that the members of this Councilor District are generally informed and earnest in the matter. In most of the counties the prospective members of the Legislature have been interviewed, and in nearly all instances seem to accede to the wishes of our members by whom they were interviewed. Dr. Paul Correll, of Easton, has visited most, if not all, of our societies and has made convincing addresses in behalf of the legislative program.

Woman's auxiliaries are functioning in four of the county societies in this district, and their members are taking a very intelligent interest in the various societies' affairs, and have contributed financially to the Benevolence Fund of the State Society. They have shown a special interest in the "May Day-Child Health Week," and in arranging clinics to coöperate with this movement. They canvassed clubs, schools, moving-picture houses, and had ministers of the various denominations announce the health program to their congregations. In one county a special committee has been appointed to make a survey, in coöperation with other health organizations, of the sanitary conditions under which the people of the county live. This committee was appointed as a direct result of the suggestion of the Secretary of Health made at our Councilor District meeting.

We are now arranging for our 1928 Councilor District Meeting, to be held at Valley Forge on September 13th, and to be addressed by Dr. John F. Erdman, of New York, and Dr. John B. Deaver, of Philadelphia. Dr. Paul Correll will also appear on the program. These meetings have been well attended in the past, and we believe they promote not only an interest in the Society's affairs, but acquaintance and friendship among the members.

Two county societies have not been visited by the Councilor of this District on account of his absence from home. He hopes to complete these visits before October.

DR. FREDERICK J. BISHOP, SCRANTON, COUNCILOR FOR THE THIRD DISTRICT

To the President and House of Delegates:

All of the county societies of the Third Councilor District are in a very satisfactory condition. The two county societies that were not entirely satisfactory in the last report have increased the number of their meetings and are showing considerable activity. All of the other county societies have active meetings, interesting and instructive programs, and are very well attended. In addition to Lackawanna County, which for a number of years has conducted a postgraduate course in conjunction with the regular meeting, it is with considerable pride and pleasure that I have to report that Luzerne County will have a postgraduate course beginning with the fall meeting.

I have visited all of the counties of the district, and in two or three instances have made a second call to consummate the activity referred to above.

It is with considerable regret that I report the institution of three new suits for alleged malpractice in Lackawanna County. One of the suits previously reported has been settled by the court in favor of the defendant by a verdict of nonsuit. Two of the others previously reported have been postponed several times by the plaintiff, and we hope to be able to report nonsuit verdicts in the near future.

The Woman's Auxiliaries of the various county societies in the district are active and respond promptly to any request made of them.

The Third Councilor District meeting was held at the Irem Temple Country Club, Dallas, on Wednesday, August 1st, and was a great success, notwithstanding the inclemency of the weather in the morning. The attendance was 135, each county in the district being represented by members who, after the meeting, returned to their respective societies with increased enthusiasm. Personally, and for the State Society, I hereby thank those appearing on the program, all of whom contributed so much toward making this meeting the success that it was.

DR. DONALD GUTHRIE, SAYRE, COUNCILOR FOR THE FOURTH DISTRICT

To the President and House of Delegates:

The reports from the secretaries of the different component societies in the Fourth Councilor District indicate that the year which has just passed has been most successful. The meetings have been well attended, and several new members have been admitted.

Much interest has been aroused by the activities of the Committee on Public Health Legislation. The chairman of this committee has visited the district and has spoken before the societies. A most enthusiastic Councilor District meeting was held at Sayre on July 9th, at which time candidates for election to the Senate and Legislature were present and stated their views. Educational petitions have been circulated and signed by a large number of the citizens of the different counties.

There have been no suits whatever for threatened alleged malpractice and no matters of disagreement in the different societies which have been brought to the Councilor's attention.

DR. FRANK G. HARTMAN, LANCASTER, COUNCILOR FOR THE FIFTH DISTRICT

To the President and House of Delegates:

Tranquillity, good order, and cordiality appear to prevail throughout the Fifth Councilor District, composed of Adams, Cumberland, Dauphin, Franklin, Fulton, Lancaster, Lebanon, and York Counties. These Societies are meeting regularly, and their notices indicate excellent scientific programs and a good attendance at all meetings.

The woman's auxiliaries throughout the District are functioning, and those with which I am most familiar show a marked willingness to coöperate with the county societies in their activities.

In company with Dr. Theodore B. Appel, Secretary of Health of Pennsylvania, I attended the annual meeting of the Lebanon County Society. The meeting was largely attended and was addressed by both Dr. Appel and myself on subjects of interest to the profession. I also attended the time-honored annual meeting of the medical societies and woman's auxiliaries of Dauphin, Lancaster, and Lebanon Counties at Lancaster. An unusually large number of members and ladies were present. These meetings have always been devoted to social activities and outdoor sports. However, on this occasion, President A. C. Morgan was present by invitation, and delivered the principal address of the meeting. Dr. Appel and I also made short addresses.

Activities to be carried out by other societies in the District before the close of the councilor year are being scheduled, and these I hope to attend insofar as I am able.

I addressed a communication to the secretary of each of the societies comprising the Fifth District, which I requested them to read at their next regular meeting. In this letter I stressed the necessity for the committees on public health legislation and the individual members to coöperate with Dr. Correll and his committee. I also advised them of the necessity to revise their budget to meet the proposed increase in the per-capita tax, at the same time indicating the reason for recommending the increase.

This district has for some years been free from suits for alleged criminal malpractice, and it is indeed gratifying to report again that none have been entered against any of the members of the several component societies, and, so far as I have been able to learn, none have been threatened.

DR. HOWARD C. FRONTZ, HUNTINGDON, COUNCILOR FOR THE SIXTH DISTRICT

To the President and House of Delegates:

The county societies of this District have maintained their usual activities during the year. Clinic days were held in the Altoona and Mercy Hospitals, Altoona, in the Clearfield Hospital, J. C. Blair Memorial Hospital, Huntingdon, and the Lewistown Hospital. This postgraduate activity is becoming more and more a part of the scientific work of the various county societies each year.

The 1928 meeting of the Councilor District was held in the Penn Alto Hotel, Altoona, May 16, 1928. More than 100 physicians were present. Dry clinics were held in the Altoona and Mercy Hospitals during the morning hours. Addresses were made by Dr. O. H. Perry Pepper, of Philadelphia, on "Notes on Nontuberculous Lung Lesions," and by Dr. Edmund B. Piper, of Philadelphia, on "Some of the Complications of Labor and the Puerperium." Both addresses were instructive and

well received. After dinner the legislative program was discussed by President Morgan and Secretary Donaldson.

The Woman's Auxiliary has been fairly active. Only three of the seven societies are organized; namely, Clearfield, Mifflin, and Huntingdon.

No applications for medical defense have been received during the year.

DR. WALTER S. BRENHOLTZ, WILLIAMSPORT, COUNCILOR FOR THE SEVENTH DISTRICT

To the President and House of Delegates:

My annual report of the work and various activities of the county medical societies comprising the Seventh Councilor District of the Medical Society of the State of Pennsylvania is hereby submitted for your consideration.

All of the societies have been visited at least once during the year, and several have been visited twice. At all of the visitations the attendance was very good, and much interest was manifest in the work of the respective societies as well as in the activities of the State Society. On all of my visitations I have been accompanied by one or more of the members of my own county society, and on a number of occasions a member of the Lycoming County Society has read a paper or delivered a scientific address (at the request of the society visited). I am very glad to report that there is not one "dead" society in the Seventh Councilor District. All the societies of the district save one have had regular meetings, and all have been very well attended.

There have been no threatened suits for alleged malpractice in the Seventh District; in fact, there have been no suits against members in this district during the past eight years.

In the majority of instances the activities of the State Society Committee on Public Health Legislation have been well received, and the individual members have given the Committee their support. All of the candidates for nomination were visited by one or more members, and in all instances the candidates have promised their support. I believe the number of signed petitions sent to the Committee from the Seventh District compares very favorably with the number sent from the other districts. The votes of the members of the Legislature from the Seventh District in 1929 will be on the side of right and proper protection of the health interests of the people of the district and State.

The first annual meeting of the Seventh Councilor District, held at Williamsport, July 13th, was a decided success. The program was just a little long for a July day, but much good food for thought was presented. The attendance was not so large as had been anticipated, but it was very good—about 150 physicians being present during some part of the program. They came from all parts of the State, and expressed themselves as being very well pleased with the program. Every guest speaker whose name was on the announced program was present.

During the past year a Woman's Auxiliary to the Clinton County Medical Society was organized at Lock Haven, making three woman's auxiliaries in this district. The Lycoming County Auxiliary has been very active during the year, their efforts having netted nearly $2,000 to be devoted to the service of others—$100 was given to the State Society Benevolence Fund, $100 to the Permanent Home Fund of the Lycoming County Medical Society, and $1,500 to the Williamsport Hospital, leaving a substantial sum in their treasury for next year. The Potter County Auxiliary, although small in numbers, has been very active.

Throughout the year everything possible has been done to arouse the interest and secure the assistance and coöperation of the physicians of the Seventh Councilor District, and the results have been very gratifying. Organized medicine has taken a decided step forward during the past year, and the physicians of the various societies of the Seventh District have become impressed with the fact that certain economic phases and responsibilities of medical practice are just as important to the individual physician as scientific medicine.

I desire to express my sincere thanks and appreciation to all who assisted in any way to improve the county medical societies in the Seventh Councilor District, during the year 1928.

DR. HARRY W. MITCHELL, WARREN, COUNCILOR FOR THE EIGHTH DISTRICT

To the President and House of Delegates:

All of the county societies have been visited by the Councilor at the time of regular meetings during the past year. Through correspondence the Councilor has been in frequent contact with county society officers for the purpose of keeping them fully advised of the action desired by the State Society officers and committees desiring support. In most instances the responses have been gratifying.

The society activities are reasonably satisfactory to the local officers, though in some of the more sparsely populated districts the attendance at meetings is not all that is desired. Erie County now has a Woman's Auxiliary of seventy members and is coöperating as desired with the medical society. Other counties in the district have not, as yet, succeeded in any comparable manner.

One alleged malpractice suit is threatened at this time. No others have been called to the attention of the Councilor since the last annual meeting.

The response to requests for support of the Legislative Committee in its important activities of the year has in most details been prompt and effective. A keener interest than usual has been shown in the work and methods of this committee.

The annual meeting of the Northwestern Medical Society, which includes the counties of the Eighth Councilor District, with some others, is well attended, and may be said to serve the purposes of the Councilor District Meeting. Nevertheless, we should like our members in the District to receive the benefits offered by the State Society, by merging the meetings of the Northwestern Medical Society and the Eighth Councilor District. By so doing, the work and expense of sending out notices would be taken over by the office of the Secretary of the State Medical Society, and the traveling expense of speakers from outside the district would be paid by the State Society.

This plan has been followed with great success in several other councilor districts, invitations to the meeting being sent also, in several instances, to the physicians in counties not included in the given Councilor District. This suggestion is made only with the hope of extending the service of the State Society to its members without additional expense, and the avoidance of conflicting dates with meetings in neighboring districts.

DR. JAY B. F. WYANT, KITTANNING, COUNCILOR FOR THE NINTH DISTRICT

To the President and House of Delegates:

It is a real pleasure to submit the annual report of the Ninth Councilor District.

The component societies have been visited and found to be more active, conducting better meetings, with larger attendance, and making greater effort for increased membership than ever before.

There is much better feeling among the members. Petty jealousies and misunderstandings have been replaced by a fraternal spirit and a higher standard of professional ethics.

It has been the custom of the societies to have their Woman's Auxiliary meet once yearly with them at a combined social and business meeting. This has been a leading feature, and probably has resulted in improved attendance of county society members at the scientific meetings. The legislative candidates were present at some of the meetings and expressed their determination to stand by those supporting better laws for the health of the people.

The Ninth District is free from suits for alleged malpractice. One remains unsettled, but is believed to be losing force and may never be called.

The chiropractors throughout the district are becoming fewer in number and will soon be a forgotten nonentity.

Our committees on public health legislation have been active and will make a good showing at the proper time.

The Woman's Auxiliaries of the district are not quite what we should like, but small things grow to large things by proper cultivation, and we are hoping ours will grow.

Some discussion in reference to increasing the State Society dues has taken place, and results will come later.

The propaganda for periodic health examinations moves slowly, but is bearing fruit.

DR. LAWRENCE LITCHFIELD, PITTSBURGH, COUNCILOR FOR THE TENTH DISTRICT

To the President and House of Delegates:

Each of the four county medical societies in my district, namely, Allegheny, Beaver, Lawrence, and Westmoreland, were visited twice during the past year. Their response and coöperation in the activities directed toward educating legislative candidates and the public at large, in preparation for expected health legislation to be introduced in the 1929 Legislature, were highly satisfactory.

The marked difference in the response from various localities to the request for signatures of citizens of voting age to be attached to the educational petitions, sponsored by the Legislative Conference, suggests an equally marked difference in the degree of enthusiasm on the part of members of county societies who have sent in their quota of signatures. Allegheny County leads all others.

The Woman's Auxiliaries to the Societies of Allegheny and Beaver Counties have been notably active and helpful.

I wish again to commend the Westmoreland County Medical Society for the excellence of its 1928 clinic, which, in clinical material, in speakers, and in attendance, ranked as one of the best and largest of its kind held in the United States.

The 1928 meeting of the Tenth Councilor District will be held in Pittsburgh, in October, and we hope to activate anew the enthusiasm of the medical profession of Southwestern Pennsylvania in regard to the control by the State of all practitioners of any form of the healing art, and to stimulate their interest in the social and scientific phases of membership.

DR. ARTHUR E. CROW, UNIONTOWN, COUNCILOR FOR THE ELEVENTH DISTRICT

To the President and House of Delegates:

I hereby submit my report as Councilor for the Eleventh Councilor District.

This district comprises the following counties: Bedford, Cambria, Fayette, Greene, Somerset, and Washington. I am especially well pleased with the work of the Fayette, Washington, and Cambria County Societies. Unfortunately the societies of Greene, Bedford, and Somerset Counties do not have monthly meetings. This, in part, is due to their scattered membership. It has been my observation that the more frequently the members of an organization, such as a county medical society, get together the more they accomplish. Too many of us today fail to realize how necessary it is for us individually and collectively to put our shoulders to the wheels of progressive medicine and lay education. Because of this we are, in a manner, forced to place before the general public a real educational program. Too few members of our State Society are carrying the burdens of all its members. Too few realize the magnitude of the work done by this limited number, and many are prone to criticize the initiative taken by them. We have in such members as Donaldson, Appel, and Correll, representatives who unhesitatingly voice the sentiments of the directorate of our Society.

It was gratifying to attend the meetings the past years in Washington, Cambria, and Fayette Counties. This year they have presented scientific programs which measure up to those of any society.

It has not yet been my good pleasure to visit the Greene, Bedford, and Somerset Societies, but this will be done in August and September, and I am sure, though these societies are smaller, they will rise to the responsibility of the occasion.

Our annual Councilor District Meeting was held in Uniontown, August 10, 1928. With a scientific program put on by members of my district, with such men as Dr. Lowman, of Johnstown, and Dr. Ruben, of Washington, followed by such talent as Drs. Appel and Correll, it is really unnecessary to say that it was a success. Dr. Appel reviewed the health situation in this State from all angles, from a knowing standpoint, and did it well. Dr. Correll sounded the keynote as chairman of the Public Health Legislation Committee, and had all the laymen of Pennsylvania been fortunate enough to hear his message, there would be no more "cult" lobbying in the legislative halls in Harrisburg.

Relative to the Woman's Auxiliaries in the Eleventh Councilor District, we are very fortunate to have in Uniontown the president of the Woman's Auxiliary to the State Society, Mrs. C. H. Smith, a woman who is wide-awake and gives a great deal of her time towards effecting a more efficient organization throughout the State. During the past year she has made an effort to organize the State in a councilor-district manner, having the councilor of each district recommend a woman who

will, in such capacity, serve as councilor of the auxiliaries in the respective districts. Mrs. Smith appointed Mrs. J. J. Meyer, of the Cambria County Auxiliary, councilor for the Eleventh District. She is wide awake and willing to bend every effort to further the cause. The district is well organized, with the exception of Bedford County, which does not have an auxiliary.

REPORTS OF STANDING COMMITTEES

COMMITTEE ON PUBLIC HEALTH LEGISLATION

To the President and House of Delegates:

May the Committee on Public Health Legislation of the Medical Society of the State of Pennsylvania present for your consideration a general outline of its many activities during the past year? May we also recount the effort and the work accomplished by former Public Health Legislation Committees which was so well instituted and which we, in a measure, have attempted to carry on?

The appointment of a Healing Arts Commission, authorized by a joint resolution during the last legislative term, the personnel of which was named by the Honorable John Fisher, our Governor, brought the necessity upon our Committee of much added activity and a need for a vigorous campaign of education among the members of our State Society, as well as an endeavor to educate the public in regard to certain facts of a definite character pertaining to the future of public-health legislation in our Commonwealth.

Your Committee, with the endorsement of our Board of Trustees, organized a Joint Conference Committee unifying the Pennsylvania Hospital Association, the Pennsylvania Homeopathic Society, the Eclectic State Society, and the Medical Society of the State of Pennsylvania, for the purpose of forming a unity of action, with the entire force concerted under one general leadership. The coöperation has been most pleasing. The combined organizations have worked in the closest harmony, visualizing our plans of campaign as a single great working force. This unity marked the beginning of a better and more thorough understanding between organizations which long ago should have been united. With this combination of forces, we have gone forth to the public with complete confidence and with added power.

Your Committee on Public Health Legislation has sent out bulletins from time to time to the various component societies, and, in one instance, to all the licensed medical practitioners in the State of Pennsylvania, defining the position of the organized medical profession and giving definite instructions to the various societies as to their work and responsibility in carrying on the issues at stake.

We have also made a comprehensive study of all the candidates for the Assembly, and, in some instances, the candidates for the Senate. We have presented to these candidates the position we have elected and the reasons for so doing, and we believe we have been able to make much progress with many men who will represent various districts in the next session of the House and Senate. We feel sure that at the next legislative term no legislators will be able to say that they have not been properly educated and sensitized as to the full meaning of certain legislation which will come before them next January. We have submitted a fair and proper questionnaire to the candidates for the Assembly, and it has reflected a marked improvement in the general understanding and respect for public-health safety on the part of our future lawmakers.

Your Committee, for the first time in the history of our State Society, held a conference with the representatives of the Public Health Legislation Committees of the various county societies.

The Woman's Auxiliary has been made cognizant of our position, and its members have shown a marked interest in our educational plans, and have rendered much assistance in the actual work at hand.

Educational petitions, signatures to which are to be obtained through the agencies of the individual physicians throughout the State, have met with the expected success. In many localities this work has far surpassed that of other districts. However, the incoming petitions bespeak a marked effort on the part of the licensed doctor to do his part.

At councilor-district meetings held throughout the State for the purpose, we have solicited coöperation of the individual members of our profession, and in all instances the response has been most pleasing and satisfying.

Your Committee begs to present for your consideration the following statement with reference to the large increase in the cost of operation of the Committee during the past year. Large items have been expended for printing, postage, traveling, clerical help, and other miscellaneous items, too many to be here enumerated. However, we beg to say that these expenditures must of necessity continue if your Committee is to meet its full obligations to the public and to the members of organized medicine. We believe that for the work we have accomplished, the accrued expenditures are well worth while.

In conclusion, your Committee begs to report that the organized medical profession in the State of Pennsylvania is at this moment reactivated and thoroughly alive to its many responsibilities. Its members are fully cognizant that in the present controversy the only interest at stake is the protection of the public; that we have nothing of a personal character to gain; we are asking no special consideration for ourselves, but rather are asking for the perpetuation of honest, just, and fair laws which were enacted solely in the interest and protection of the citizens of our Commonwealth.

We have adhered at all times distinctly and without variation to the principle that the allied medical societies of Pennsylvania and their associated bodies are interested only in the continued maintenance of proper pre-professional and professional educational standards. We do not want multiple state licensing standards or multiple boards. We do not want a cheapened profession nor a less efficient doctor. All our logic has been spent in the development of thought based upon the fact that our only concern in this controversy has been the protection of the people.

May we ask for a continued endorsement and support of the work of this Committee, so that when the real issues are to be decided, organized medicine will present a solid and determined front in its resistance against laws which will destroy the progress of our profession, the result of years of honest and untiring effort.

The Committee believes that it has made much progress. We are certain, however, that we must have the continued support of each and every individual in or-

ganized medicine if our plans as outlined are to succeed.

Paul Correll, *Chairman,*
George L. Laverty,
Maurice T. Leary,
Herbert M. Goddard,
John D. Boger,
Edgar S. Buyers,
I. Dana Kahle,
Henry W. Salus,
Walter F. Donaldson,
Arthur C. Morgan.

COMMITTEE ON SOCIETY COMITY AND POLICY

To the President and House of Delegates:

Our committee has had no business referred to it since our last report, and therefore has held no meetings. Our report as a nominating committee of delegates and alternates from our Society to the House of Delegates of the American Medical Association will be presented in due time.

John A. Campbell, *Chairman,*
Frank P. Lytle,
Curtis C. Mechling,
J. Fred Wagner,
Harry J. Bell.

COMMITTEE ON MEDICAL BENEVOLENCE

To the President and House of Delegates:

During the past year four of our members have been beneficiaries of the Medical Benevolence Fund and there have been no new applications for financial assistance.

The Fund has been very considerably increased by contributions from the Woman's Auxiliaries of the following county medical societies: Allegheny, Beaver, Bucks, Cambria, Chester, Erie, Fayette, Lancaster, Lebanon, Lehigh, Lycoming, Philadelphia, Potter, Washington, and York. We are appreciative indeed of the spirit of thoughtfulness and generosity thus manifested by the women of these organizations.

The report of the Treasurer of the Committee is as follows:

Balance in bank Sept.. 1, 1927 ...		$1,378.61
Receipts		
From Treasurer Dec. 15, 1927 ..	$602.37	
From interest on deposits	11.67	
From Treasurer May 10, 1928 ..	673.61	
From interest on deposits	9.61	
From Treasurer Aug. 25, 1928 ..	685.64	
		1,982.90
		$3,361.51
Disbursements		
August 31, 1927	$150.00	
September 28, 1927	225.00	
November 1, 1927	465.00	
February 1, 1928	465.00	
April 30, 1928	465.00	
July 31, 1928	465.00	
		2,235.00
August 30, 1928, Balance on hand		$1,126.51

Howard C. Frontz, *Chairman,*
Edward B. Heckel, *Treasurer.*
Jay B. F. Wyant,
Walter F. Donaldson.

REPORTS OF SPECIAL COMMITTEES

COMMITTEE ON DEFENSE OF MEDICAL RESEARCH

(Subsidiary to the Committee on Public Health Legislation)

To the President and House of Delegates:

The Committee on Defense of Medical Research has had no work assigned to it since August, 1927.

We recommend that this committee be continued without change in policy governing its activities.

James D. Heard, *Chairman,*
Samuel A. Savitz.

COMMITTEE ON MENTAL HYGIENE

(Subsidiary to the Committee on Public Health Legislation)

To the President and House of Delegates:

Your Committee on Mental Hygiene begs leave to submit the following report for the past year:

Inasmuch as the House of Delegates failed this year to outline the objectives and scope of activities of the Mental Hygiene Committee, we have endeavored to carry out the policies of the old Committee on Efficient Laws on Insanity: to wit, keeping before the medical profession the Fifty-Million-Dollar Bond Issue to meet the needs of the mentally handicapped. The fact that this is not a legislative year prevented the prosecution of the old Committee's activities in the matter of legislation.

Your Committee's program for the year, therefore, was presented to the component medical societies through the Secretary, Dr. Donaldson, to wit, that each society bring before its members the Fifty-Million-Dollar Bond Issue and the subject of mental hygiene, its scope and activities, as it relates to the betterment of the care, study, and treatment of the mentally ill; its relationship to medicine; its relationship to organized society; and its relationship to the individual. This program also indicated the source of speakers on this subject, as well as the coöperation of the medical superintendents of the mental hospitals of Pennsylvania. Your Committee learns through reliable sources that many of the county societies have coöperated with its recommendations, for which we are indeed grateful.

Your Committee recommends that the House of Delegates outline the objectives and scope of activities of this Committee; that the House of Delegates recommend to the incoming presidents and the Scientific Program Committee that three papers dealing with mental hygiene and mental medicine be read each year—one before the General Session, one before the Section on Medicine, and one before the Section on Pediatrics; that the House of Delegates also recommend to the District Councilors that mental hygiene and mental medicine be included in their scientific programs at their annual councilor district meetings. Such a procedure would insure a broad contact with the physicians throughout the State, and would avoid the necessity of a highly specialized section on neuropsychiatry in the future.

Your Committee would be very reluctant to make such recommendations if it were not that mental hygiene and mental medicine are closely allied to all the fields of medicine, and that physicians should be and are interested in the mental health of the community; in the early recognition, diagnosis, treatment, and care of the mentally ill; in adequate hospitals, research, and

treatment agencies; in adequate medical laws as related to crime; and in adequate health laws as related to the prevention of gross mental abnormalities involving marriage, segregation, and sterilization of the mentally unfit, the promotion of which come within the province of your Committee on Mental Hygiene, which is keeping such humane and scientific objectives before the physicians throughout the State. It is needless to say that without the full coöperation of the component societies, these things could not be accomplished.

J. ALLEN JACKSON, *Chairman,*
EDWARD E. MAYER,
SHERMAN F. GILPIN.

COMMITTEE ON ARCHIVES

To the President and House of Delegates:

No business or publications have been referred to our committee since our last report. Until such time as our Society's property at Harrisburg is adorned by a fireproof building, we recommend the installation in the Harrisburg office of a fireproof safe adequate to protect invaluable and irreplaceable volumes at present maintained in ordinary bookcases.

WALTER F. DONALDSON, *Chairman,*
JACOB S. HACKNEY,
JEFFERSON H. WILSON.

COMMISSION ON CANCER

To the President and House of Delegates:

During the past year more work, and it is hoped more good, has been done than any year since the birth of the Commission in 1909.

At the end of 1927 the American Society for the Control of Cancer prepared a series of short articles on cancer to be published in the newspapers for about sixteen consecutive days. Largely through the assistance of members of the Commission, these valuable articles were published in fourteen Pennsylvania papers with a total circulation of about 300,000.

In the fall of 1927, Philadelphia, under the joint auspices of the Philadelphia County Medical Society and the City Department of Health, and quite independently of this Commission, had a very active "Cancer Week." A great many talks were given, a large amount of literature was widely circulated, and newspapers also helped. In May, 1928, the medical teachers of this city provided the very important Cancer Study Course, which will be referred to more in detail later. Philadelphia, therefore, has amply provided its quota of work.

INSTRUCTION OF NURSES.—The value of a well-instructed nurse in cancer control has been long appreciated by the Commission, and for some years this question has had attention. This year, the instruction of nurses was again stressed, and practically every hospital in the State has provided special lectures for its graduating class.

MEDICAL SOCIETY MEETINGS.—All the county societies have been directly urged to devote one or more meetings entirely to the study of cancer, and nearly all have already done so, or have a meeting definitely planned for this fall.

In many cases, special meetings, including a number of counties or councilor districts, have been held in addition to county society meetings. Such combined meetings have been held in Cambria, Montour, Lackawanna, Lycoming (Seventh Councilor District), and Clearfield Counties.....

Particularly in the districts centering in Cambria and Clearfield counties, a number of talks have been given before women's and service clubs, and from each of these counties about 8,000 pieces of cancer literature have been distributed.

THE PHILADELPHIA CANCER STUDY COURSE.—This was a new venture, and thanks to the energy of the Philadelphia County Cancer Committee, headed by Dr. George E. Pfahler, it was a great success and definitely proved its value as another item in the fight against cancer. The course lasted three days, and included the best teaching in practically all elements of the cancer problem. The attendance (about 135) was disappointing, but the men present have carried away knowledge and instruction which will spread widely and to the great benefit of the committees they represent.

CANCER CLINICS.—During the year Secretary of Health Appel, who has enthusiastically coöperated with this Commission, has added cancer divisions to State clinics, making seven now in operation. More are to be added in a few months, so it is believed that soon, at least in the larger cities, no poor cancer patient need be in want of a place to obtain proper early diagnosis and treatment.

CANCER CLINICS IN GENERAL HOSPITALS.—Nearly every cancer patient needs the combined study and care of a group of specialists, and several hospitals in the State have already organized such groups, so that every cancer patient applying to the institution will receive the most careful consultation study and a well-devised plan of treatment, properly combining all the methods useful in each individual case. It is hoped that the establishment of many additional hospital cancer clinics will be one of the major efforts of future commissions.

A STATE CANCER INSTITUTE.—Under the leadership of Secretary of Health Appel, a plan is now well under way to establish in Pennsylvania a Cancer Institute on the same general plans as now prevail in New York and Massachusetts. The details of this proposed institute are not yet sufficiently developed to outline in this report. Such an institute in Pennsylvania will go far to arm the State against one of its most urgent health problems, and it is hoped that Secretary Appel's plan will have the warm support of every member of this Society.

CONCLUSION.—A statistical study undertaken by the Commission two years ago is now well developed. Considerably more data, however, must be obtained, and this will involve expense. The general educational work must expand every year if the Society is to do its share of the work which Pennsylvania needs, and for the general work of the Commission an appropriation of $1,000 is requested for the coming year.

JONATHAN M. WAINWRIGHT, *Chairman.*
SAMUEL J. WATERWORTH,
HARRISON A. DUNN,
ALBERT F. HARDT,
JOHN O. BOWER,
GEORGE B. STULL,
HARRY M. STEWART.

COMMISSION ON COMPENSATION LAWS

To the President and House of Delegates:

The Commission begs to report that after consideration of all angles of our present Compensation Law and the changes to be desired, it recommends that Senate Bill No. 945, as presented at the last session of

the Legislature, be again presented for passage. This bill makes the physician and the hospital parties at interest. It makes certain that physicians shall be paid for their services, regardless of where the service is rendered, and it provides an additional payment of $100 to the surgeon and $100 to the hospital where it can be shown by competent testimony that such additional care after the first thirty days of disability will give promise of returning the injured man to his former occupation.

The Commission recommends that a contact be made between our State Board and the Medical Society of the State of Pennsylvania, with the thought of clarifying medical problems which still remain in doubt.

This latter recommendation was contained in last year's report and was approved by the House of Delegates. The Commission has been in doubt as to whether it should proceed to form this liaison, or whether such action would properly fall to another department or committee of our Society. So far as the Commission knows, an effort to make this rather important contact has not been made. The Commission suggests that the making of this contact be definitely assigned to some department of the Society.

The Commission again wishes to express its decided opinion as to the best way of securing passage of amendments to the Compensation Law. The person charged with steering this legislation in Harrisburg should personally tour the State and interview each senator and legislator, giving a practical explanation of our aims, and securing, if possible, the support of these men. The work in Harrisburg would then be less difficult. The Commission urges that this task be properly delegated. Our bill is already drawn, and everything is in excellent shape to do this.

As a separate thought and a separate bill, the Commission urges the Medical Society of the State of Pennsylvania to present a bill providing for the establishment of a University of Reëducation for permanently and irreparably disabled men. Such a bill should include provision for financing such a University and correlating its activities with those of universities receiving State aid, university-extension work, and correspondence-school work.

In keeping with instructions as to Society policy, the Commission has engaged in no public activity during this year.

Lever F. Stewart, *Chairman,*
Moses Behrend,
J. Norman White,
James G. Flynn,
John J. Dailey.

COMMITTEE ON LABORATORIES

To the President and House of Delegates:

The work of the Committee on Laboratories has practically been at a standstill. There seems to be very little inclination on the part of some physicians who have private laboratories to have their business endorsed by the American Medical Association. A few men claim they are not running strictly commercial laboratories, yet have patients of their own to come to the laboratory, and have a technician make blood counts and other tests. If this is the opinion of men of high standing in the profession, it appears that a definition of a commercial laboratory should be broadcast by the parent committee of the American Medical Association and possibly more laboratories would come into the fold and become approved. Most physicians resent any one stepping in and saying what kind of a business they should engage in and what assistants they should employ.

Therefore, it appears to me, as chairman of the Committee on Laboratories, that to insure a larger number of approvals of laboratories throughout the State, the parent committee should define what a commercial laboratory really is and how approval by the American Medical Association is going to assist them in their work.

Randle C. Rosenberger, *Chairman,*
George D. Fussell,
O. H. Perry Pepper,
George R. Moffitt,
Roy R. Snowden,
Lewis L. Rogers,
Joseph R. T. Gray.

COMMITTEE ON LAY EDUCATION

To the President and House of Delegates:

The Committee on Lay Education wishes to stress the tenor of its report to the House of Delegates for the 1927 session, and, at this time, to emphasize further the fact that, as a very important activity of organized medicine, the State Society must assume its full responsibility in regard to lay education.

This activity cannot be properly established until the finances to guarantee its continuance are assured. In order to obtain funds for this purpose, it is necessary to increase the per-capita tax. In the August number of our Journal appears an editorial upon this very vital question.

We cannot emphasize too strongly the need for each member to realize that his State Medical Society must assume this activity, that it costs money, that funds must be procured, and the source of increased revenue for this and other demanded activities of our State Medical Society must be by an increase in the per-capita tax. Our State Medical Society must be a leader in all matters pertaining to organized medicine, and this means an annual financial outlay.

On page 875 of the August number of our State Journal will be found the following reference:

Name of State Society	No. of Members	Annual Dues	Amount expended annually for public-health legislation and lay education
Minnesota	2,150	$15	$10,000
New Jersey	2,329	10	10,500
New York	11,446	10	13,000
Texas	3,694	10	10,000
Illinois	7,415	8	17,500
Indiana	2,785	7	1,250

In view of this, our State Medical Society, with a membership of 7,751, and annual dues of $5, is not able to do its share in matters pertaining to lay education.

A survey of the field since the 1927 session of our State Society has shown that much of the work planned for our Committee is being well done by the State Department of Health under the Secretary of Health, Dr. Theodore B. Appel, its well-prepared articles on preventive medicine for individuals and communities having entrée at frequent intervals into the columns of the best newspapers in all parts of the State.

During the year, however, members of this Committee have coöperated with the Committee on Public Health Legislation in the preparation of the tremendous amount of printed material which has been prepared and distributed to the public in connection with the

activities of the Freeman Commission, and in defense of continued high educational and licensing standards for all who would practice any form of the healing art in Pennsylvania.

FRANK C. HAMMOND, *Chairman,*
ARTHUR B. FLEMING,
JOSEPH A. STACKHOUSE.
WILLIAM A. WOMER,
WALTER F. DONALDSON.

COMMITTEE ON NECROLOGY

To the President and House of Delegates:

The 1927 House of Delegates having approved the recommendations of the Committee on Necrology, we accordingly mailed to the Secretary of each county society the following questionnaire:

1. Does your county medical society have a necrology committee?

2. Is provision made at each meeting of your society for a respectful hearing of reports that may be presented by the committee on necrology?

3. If there is not a committee on necrology in existence in your society at the present time, what steps, if any, have been taken for the creation of such a committee?

4. Will you, as secretary of your county society, adopt the recommendations on the necrology blanks furnished you by the State Society?

Replies to this questionnaire have been received as shown in the above table.

Society	*No. 1.*	*No. 2.*	*No. 3.*	*No. 4.*
Adams County	No	No	None	Yes
Allegheny County	Yes	Yes	No	Yes
Beaver County	(to be appointed at next meeting)	Yes		Yes
Bedford County	None	None	None	Yes
Berks County	Yes	Yes		Yes
Bradford County	No		(to be discussed at next meeting)	Yes
Butler County	(the secretary constitutes the committee)			Yes
Carbon County	No	No	None	Yes
Clearfield County	Yes	Yes		Yes
Clinton County	No	No	None	Yes
Cumberland County	No	Yes	Yes	Yes
Dauphin County	Yes	Yes		
Delaware County	Yes	Yes		Yes
Elk County	No	No	None	Try to
Fayette County	Yes			
Franklin County	No	No	None	Yes
Huntingdon County	No	Yes	None	Yes
Jefferson County	No	No	None	Yes
Juniata County	No		(to be taken up at next meeting)	Yes
Lancaster County	No	No	(to be taken up at next meeting)	Yes
Lawrence County	No	No	None	Yes
Lebanon County	No		None	Yes
Lehigh County	Yes	Yes		Yes
Luzerne County	No	Yes		Yes
Lycoming County	Yes	No		Yes
McKean County	Yes	Yes		
Mercer County	Yes	Yes		
Mifflin County	No	Yes		Yes
Montgomery County	Yes	No		Yes
Northumberland County	No	No	None	Yes
Schuylkill County	Yes	Yes		Yes
Tioga County	Yes	Yes		Yes
Union County	No	No	None	Yes
Warren County	Yes	Yes		Yes
Westmoreland County	No	No	None	Yes
York County	Yes	Yes		Yes

The results of nearly a year's work based on the 1927 recommendations of the Necrology Committee of the Medical Society of the State of Pennsylvania have been rather discouraging.

It is astonishing to note in how many instances the secretaries of the component county medical societies have either failed to return the necrology cards sent from the office of the Secretary of the State Society, containing all the information available regarding recently deceased members, or the number of instances in which the cards were returned without any additional information.

Your Committee on Necrology is prepared to carry out the recommendations adopted by the 1927 House, but is greatly handicapped this year by failure of proper officers of 27 component societies to coöperate.

We recommend, first, that the Committee on Necrology of this Society be made a standing committee; second, that every component society provide for a committe on necrology to assist the Secretary of the State Society; third, we recommend the following amendment to the By-laws: Amend Chapter VIII (County Societies) Section IX, adding after the word "state" in line 6, the following: "and in the event of the death of a member he shall fill out in duplicate the blanks supplied by the State Society, keep one on file as a permanent record of the local society, and promptly forward the other to the State Secretary for permanent filing in the archives of the State Society."

GEORGE E. HOLTZAPPLE, *Chairman.*
JAMES A. C. CLARKSON,
U. GRANT GIFFORD,
THOMAS K. WOOD,
WALTER F. DONALDSON.

CONFERENCE COMMITTEE WITH PENNSYLVANIA PHARMACEUTICAL COMMITTEE

To the President and House of Delegates:

Your Committee to Confer with the Pennsylvania Pharmaceutical Association begs to submit the following report:

The interests of medicine and pharmacy being largely identical, and the evident desire of both professions for coöperation being manifest, we would suggest that the Legislative Committee of the Pennsylvania Pharmaceutical Association be invited to hold conferences periodically with the Committee on Public Health Legislation. We would also advocate joint meetings of the two professions in each county of the State, where mutual problems may be freely and frankly discussed and the respective legislative programs of both societies be outlined.

That the Pennsylvania Pharmaceutical Association would welcome such a liaison is evidenced by the following resolution passed at its last meeting in June, 1928:

Be it resolved, That it is the sense of this meeting that the incoming legislative committee be instructed to coöperate with the officially recognized public-health agencies of the Commonwealth in promoting legislation calculated to protect the citizens from incompetent practitioners in any line who profess to minister to the ills of the human body and mind.

J. Newton Hunsberger, *Chairman,*
Samuel D. Shull.

COMMISSION TO CONFER WITH THE VARIOUS PRIVATE AND GOVERNMENTAL HEALTH AGENCIES

To the President and House of Delegates:

The Commission to Confer with the Various Private and Governmental Health Agencies held a meeting in Harrisburg in February and outlined a plan of operation.

This Commission is for the purpose of establishing certain matters of fact concerning private and governmental health agencies which the Medical Society of the State of Pennsylvania desires for its consideration, and will require time and careful study.

We feel that this is not an opportune time for a complete survey of these conditions, because of the important work of the Public Health Legislation Committee with which we might interfere. For that reason we would suggest that this Commission be continued, with such changes in agenda and personnel as the incoming administration might desire.

William W. Lazarus, *Chairman,*
W. Rowland Davies,
Edgar S. Buyers,
Charles B. Maits,
Randall B. Hayes.

REPORT OF DELEGATES TO THE 1928 SESSION OF THE AMERICAN MEDICAL ASSOCIATION

To the President and House of Delegates:

Our Society was represented in the House of Delegates of the American Medical Association, which convened in Minneapolis, Minnesota, on Monday, June 11, 1928, by the following duly elected delegates: Drs. J. Norman Henry, Philadelphia; Samuel P. Mengel, Wilkes-Barre; J. Newton Hunsberger, Norristown; William H. Mayer, Pittsburgh; Frank P. Lytle, Birdsboro; John B. McAlister, Harrisburg; Orlando H. Petty, Philadelphia. Alternate-designate, Dr. James A. C. Clarkson, of Lewistown, served in place of Dr. John A. Campbell, of Williamsport, who was unable to attend on account of the marriage of his daughter; Alternate-at-large, Dr. Samuel J. Waterworth, of Clearfield, served in place of Dr. Charles C. Cracraft, of Claysville, who was unable to attend on account of illness; and Dr. Arthur H. Gross, of Bellevue, was chosen by the delegates present to serve in place of Dr. Walter F. Donaldson, who was unable to attend on account of illness. The members of our delegation served in the deliberations of the House and on its reference committees faithfully and in accordance with the best traditions of our Society. Dr. Henry served on the Reference Committee on Report of the Trustees; Dr. Mengel on the Committee on Hygiene and Public Health; and Dr. Hunsberger on the Committee on Sections and Section Work.

J. Norman Henry.

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade Bldg.,
Pittsburgh, Pa.

ANNUAL REPORTS

In this number of the Journal appear the reports for the current year of the 1928 officers and standing committees. We sincerely hope that many of our members will carefully read these reports. It is the duty of the members of the 1928 House of Delegates to review studiously all published reports in advance of the first meeting of the House, which takes place Monday, October 1, 1928, at 3 p. m., in the Consistory, first floor of the Masonic Temple, Allentown.

Of outstanding interest to our members will be the repeated references, in the various reports, to the growing obligation of our Society to take the lead in educating the public to the increasing hopes for human happiness in the acceptance of the approved methods of preventive medicine. Altruistic ambitions are expressed in these reports, as well as mundane requests for additional funds necessary to achievement. The Cancer Commission asks for $1,000 the coming year. The report of the Committees on Public Health Legislation and Lay Education, and the report of the Secretary, and of the Chairman of the Board of Trustees include suggestions and recommendations that can be met only by increasing the annual dues of our members to $7.50.

A large percentage of the reports refer in glowing terms to the accomplishments of the various woman's auxiliaries. They refer to more than $1,500 contributed by the auxiliaries to the Benevolence Fund of the State Society, as well as to the garnering of $2,000 to be spent in the "service of others" by a single auxiliary.

Reading the reports of the Publication Committee of the Board of Trustees, and the report of the Business Manager of the JOURNAL and sessions should increase your respect for the interim administration of our Society's principal avenues of public contact.

Other subjects touched upon in these reports are the multiplicity of medical societies and advice regarding improved scientific programs for county societies.

The financial report of any organization to which you may belong, with an annual income from investments of approximately $6,750, should interest you (see reports of the Secretary and the Treasurer).

Read the reports for the closing year and instruct the delegates from your county society in accordance with your personal reaction to the records and recommendations and suggestions contained, or be prepared to have your quiescence interpreted as an expression of your entire satisfaction.

CONTRIBUTIONS TO BENEVOLENCE FUND

We gratefully acknowledge receipt of the following contributions to the Medical Benevolence Fund:

Woman's Auxiliary to Erie County Medical Society (additional)	$6.00
Woman's Auxiliary to Lebanon County Medical Society	50.00
	$56.00

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since July 18. Figures in first column indicate county society numbers; second column, State Society numbers:

July 23	Cambria	163	7677	$5.00
24	Venango	55	7678	5.00
26	Clarion	26	7679	2.50
	Somerset	1	7680	5.00
Aug. 1	Mercer	72	7681	5.00
2	Armstrong	55	7682	5.00
	Westmoreland	176	7683	5.00
8	Jefferson	51	7684	2.50
9	Philadelphia	2071-2077	7685-7691	35.00

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to August 15:

ADAMS: *Removal*—Edward A. Runyeon from Carlisle to 715 Begole St., Flint, Mich.

ALLEGHENY: *Death*—Charles L. Campbell, Pittsburgh (Jeff. Med. Coll. '86), July 31, aged 66.

ARMSTRONG: *Reinstated Member*—Norval D. Marbaker, Brick Church.

BEDFORD: *Removal*—Charles C. Cooner from Bedford to Homer City (Ind. Co.).

BERKS: *Removal*—M. Luther Huyett from Reading to Atascadero, Calif.

CAMBRIA: *New Member*—Homer C. Blough, R. 4, Johnstown. *Removal*—Max S. Kaplan from Barnesboro to Riddlesburg (Bed. Co.).

CLARION: *New Member*—Frank Vierling, Main St., Knox. *Death*—Nelson M. Meals, Callensburg (West. Res. Univ. '74), July 15, aged 80.

CLEARFIELD: *Transfer*—John H. Smith, Hyde, from Indiana County Society. *Death*—Robert Jackson, Osceola Mills (Jeff. Med. Coll. '96), June 24, aged 57.

FAYETTE: *Removal*—Clyde F. Smith from Brownsville to Wildwood, N. J.

JEFFERSON: *New Member*—Miles Grube, Punxsutawney.

INDIANA: *Removal*—Armand G. Sprecher from Homer City to Waterman.

LACKAWANNA: *Death*—Reinhart J. Ritz, Scranton (Jeff. Med. Coll. '93), June 27, aged 59.

LANCASTER: *Death*—Harry B. Roop, Columbia (Univ. of Penna. '98), Aug. 8, aged 58.

McKEAN: *Death*—William J. McGranor, Port Allegany (Univ. of Pgh. 96), July 20, aged 57.

MERCER: *Reinstated Member*—Robert E. Mehler, State Branch, Cresson.

NORTHUMBERLAND: *Death*—William T. Graham, Sunbury (Jeff. Med. Coll. '89), recently, aged 66.

PHILADELPHIA: *New Members*—Lester W. Frasier, 2834 Frankford Ave., W. Kenneth Knotts, 1523 Locust St., Philadelphia.

SOMERSET: *New Member*—Frank N. Lee, Central City.

VENANGO: *Removal*—John R. Bangert from Oil City to Shippensville (Clarion Co.).

WESTMORELAND: *Reinstated Member*—Arthur D. Barnhart, Youngwood.

COMMITTEE ON PUBLIC HEALTH LEGISLATION

PAUL R. CORRELL, M.D., *Chairman*
Easton, Pa.

THE COMMITTEE AT THE ANNUAL SESSION

Ten months have elapsed since the Committee on Public Health Legislation of the State Society took up the work of public education through activation of the individual members of the State Society. Much ground has been covered and much progress apparently made in attempting to point the way of the individual licensed doctor to the necessity of greater activity than that of the practice of medicine.

The time has long since passed when the individual physician, as such, or organized medicine, as represented in the Medical Society of the State of Pennsylvania, can thrive on their past behavior of calm and placid contentment. In order to establish proper recognition for organized medicine, they must elect and follow an offensive plan of real worth, and must lend their

support in a constructive way in the making of laws pertaining to health and in the enforcement of such laws. Both of these functions emanate from a desire to render a proper service to the people of our Commonwealth. The people of Pennsylvania have the right to demand that their interests in matters pertaining to public health be protected to the end by a proper and judicious interest on the part of organized medicine. This will be done, for the individual doctor was never more awake to his responsibilities than at this time.

The Committee on Public Health Legislation of the State Society will maintain a booth at the forthcoming State Convention in Allentown, beginning October 1st. It is the duty and obligation of each member of the State Medical Society to attend this meeting and to give the representatives of the Committee on Public Health Legislation their best judgment and opinions on matters pertaining to public health. We, therefore, look forward with pleasure to meeting the representatives of all counties throughout the State of Pennsylvania, from whom we desire frank and complete opinions. Your Committee can only be as efficient as the support given them by the individual doctors. We ask that you give us your time and consideration in the hope that it may result in the mutual betterment of all interested in this present controversy.

County Society Reports

BERKS—JULY

The annual outing of the Society was held at the Reading Country Club on July 11. Dr. Wayne Shearer took first prize in the golf tournament with a score of 93. Drs. Homer Rhode, Oscar Fox, and H. U. Miller also won prizes. Dr. S. W. Gryczka was the most adept in guessing the number of pills in a bottle.

While the doctors golfed, the members of the Woman's Auxiliary played bridge on the veranda and elected officers for the coming year. Dinner was served in the ballroom. At intervals Miss Margaret Kenderdine and Mrs. Le Roy Frederick sang selections, accompanied by Mr. Rene Irvin.

Pearl E. Hackman, M.D., *Reporter.*

CAMBRIA—JULY

Dr. Joseph Colt Bloodgood gave a clinic at the Conemaugh Valley Memorial Hospital, Johnstown, July 19th, which was well attended by doctors from Cambria and adjoining counties. Dr. Bloodgood showed three cases of carcinoma of the stomach, two of the breast, one of sarcoma of the face which started from a neglected pigmented mole, and one of sarcoma of the antrum. One man was shown on whom Dr. Bloodgood had operated eighteen years ago for carcinoma of the stomach. This man has been entirely well since his operation.

In the case of the pigmented mole on the side of the face, which the patient stated bled profusely after he shaved for a number of months before it began to grow, the diffuse melanoma which resulted afforded a wonderful opportunity for discussion of the prevention of cancer by the early removal of all pigmented moles, especially when they are located on a part of the body which is likely to be rubbed or irritated. Dr. Bloodgood very dramatically pointed out that this young man, who was only twenty-two years of age, was now dying from melanotic sarcoma of the face only because he was not educated to recognize the seriousness of such conditions. The proper time for educating the public in regard to the prevention of cancer is in the primary grades in school. It is equally important that physicians be taught to act promptly when patients come to them with precancerous or cancerous conditions.

The case of an early carcinoma of the stomach in a woman fifty-three years of age afforded an opportunity for discussion on the early diagnosis and treatment of carcinoma of the stomach. She said: "I had a cold a month ago. This left me with pain in my stomach. It did not leave in a few days, so I went to see my doctor. He told me we must find the trouble by getting an x-ray of my stomach." The x-ray showed a filling defect of the pyloric end of the stomach in all plates. "When you hear this woman relate her symptoms, which are those of early carcinoma, you are listening to the language of a disease. It is best not to change the wording because you cannot improve it."

Malignancy of the sinuses is more common now than formerly because nasal infections (common colds) are more common. It is rarely curable, and is a field that needs much investigation.

Dr. Bloodgood summed up the prevention of carcinoma briefly as follows: skin carcinoma may be prevented by keeping the skin clean and using white vaseline to prevent cracking and scaling of the skin. Women with good looks never get carcinoma because they take care of their skin. All pigmented moles and warts should be removed when they are located where they are apt to be rubbed or irritated. Cancer of the mouth is best prevented by keeping the mouth clean, by avoiding or treating Vincent's infection, and by keeping the teeth smooth and avoiding all ill-fitting plates and bridges. Perborate of sodium acts as a specific in infections due to Vincent's organisms. Tobacco should not be used where the tongue or lips are irritated by it. This is especially true when there is leukoplakia in the mouth. Carcinoma of the cervix can be prevented by periodic examination of women and a prompt repair of all lacerated cervices. Finally, educate the public, especially the young people, about cancer and teach them the importance of health examinations. When the knowledge that we possess at present concerning the prevention of cancer is thoroughly disseminated among the laity, a great step forward shall have been made.

H. B. Anderson, M.D., *Reporter.*

LUZERNE—JUNE

On June 20 the annual outing was held at Kis Lyn, the school for juvenile male delinquents maintained by Luzerne County. The members of the Society motored to the school, where they were the guests of Superintendent C. F. Johnson. There were facilities for baseball and quoits during the afternoon. Superintendent Johnson led in the inspection of the fresh-air camp which was subsequently opened to undernourished children of Luzerne County. Dinner was served in the early evening.

Lewis T. Buckman, M.D., *Reporter.*

LYCOMING—JULY-AUGUST

The first annual meeting of the Seventh Councilor District was held in conjunction with the regular monthly meeting of the Lycoming County Medical Society, July 13, in the ballroom of the Park Hotel, Williamsport, Councilor Walter S. Brenholtz presiding. Prior to the regular meeting, a cancer clinic was conducted in the reception room of the Nurses' Home of the Williamsport Hospital by Dr. Jonathan M. Wainwright of Scranton, chairman of the Cancer Commission of the State Society. This clinic was well attended, and a number of very interesting cases were presented and studied.

The morning session at the Park Hotel was opened with an address by Dr. Lee M. Goodman, president of the society. Dr. Wainwright read a paper on "Cancer From the Viewpoint of the General Practitioner," in which he detailed the effects of cancer on the various tissues and organs of the human body. The second paper was presented by Dr. Charles G. Kerley, of New York City. His subject was "Celiac Disease of Gee," and he illustrated his talk with lantern slides. He traced this dread disease of children from its very beginning down to the present time, detailing the causative factors, diagnosis, and treatment, and emphasizing the great importance of making a correct diagnosis and securing the complete coöperation of the parents so that proper treatment may be carried out without interruption. Following this meeting, dinner was served at the Lycoming Hotel at one o'clock, and vocal and instrumental music was furnished. The invocation was pronounced by the Rev. George W. Nicely, D.D., pastor of St. Paul's Lutheran Church.

After the dinner Dr. George Edward Follansbee, of Cleveland, Ohio, read a paper on "Why Tradition, History and Ethics?" This paper was something new and out of the ordinary; nevertheless it was very timely and brought to our attention many of the abuses in the present-day practice of medicine.

Dr. Arthur C. Morgan, president of the State Society, stressed the important problems confronting the medical profession with which the State Society officers are laboring at the present time.

Dr. Paul R. Correll, of Easton, chairman of the Committee on Public Health Legislation of the State Society, gave a history of the work that has been done up to the present time against the obnoxious legislation which will be presented at the next session of the Legislature. He also outlined our duties in this regard if we desire to protect the public against uneducated and unqualified practitioners of the healing art.

Dr. Thomas G. Simonton, president-elect of the State Society, discussed the next annual meeting to be held at Allentown, October 1 to 4, the very fine scientific program which has been arranged, and also a number of important matters to be considered by the House of Delegates, particularly the question of increase in dues.

Approximately 150 physicians were in attendance at this meeting.

Following its established custom, the society transformed its August meeting into an outing, which was held at Round Top Inn, near Hall's Station. The attendance was above the average, with seventy-two members and ten guests present. The management of the Inn served dinner, which was followed by a short business meeting. The rest of the afternoon was devoted to relaxation and sports.

At the business meeting the Permanent Home Committee reported $1,326 in its fund. This included contributions from Drs. Charles G. Kerley and George E. Follansbee, each of whom returned his expense fund to the secretary.

The four guests of honor were the nestors of the society. Each has attained the age of 75, and all are still active in practice of medicine. They are Dr. A. P. Hull, of Montgomery, Dr. Edward Everett, of Dushore, Dr. William Marsh, of Watsontown, and Dr. B. Meyers Yost, of Linden. Each spoke in a reminiscent mood of the progress of medicine as a whole and as practiced in Lycoming County during their lives.

WALTER S. BRENHOLTZ, M.D., *Secretary.*

UNION—JULY

The quarterly meeting of the society was held at the Cameron House, Lewisburg, on July 26th, where dinner was served at noon. The attendance, including the visitors, was nine.

After the dinner, the councilor, Dr. Walter S. Brenholtz, of Williamsport, gave us good, wholesome advice. He stressed the necessity for doing our part in defeating the Chiropractic Bill and explained the reason for the increase in the membership dues, which will come up for action at the meeting of the State Society at Allentown.

Dr. J. Gibson Logue, of Williamsport, read a paper on "Diarrhea in Children." It was a most interesting and practicable paper for the country physician. The discussion which followed was evidence of the appreciation with which the paper was received. Every member present took part, and that in itself made this meeting unique in the history of the society.

C. H. DIMM, M.D., *Reporter.*

FIFTH COUNCILOR DISTRICT—AUGUST

The twenty-second annual meeting of the western section of the Fifth Councilor District of Pennsylvania, including York, Adams, Franklin, Fulton, and Cumberland Counties, was held on August 16th, at the new Out Door Club, York. The speaker of the day was Dr. Edward Weiss, demonstrator of medicine at Jefferson Medical College. His address was "A Discussion of Nephritis with Special Reference to Diagnosis and Treatment."

Dr. A. C. Morgan, president of the State Society, reviewed the present legislative aspect of the State's Society.

The following members were nominated as officers for the coming year: president, Dr. C. R. Rickenbaugh, Carlisle; first vice-president, Dr. J. P. Dalbey, Gettysburg; second vice-president, Dr. L. M. Hartman, York; third vice-president, Dr. S. D. Shull, Chambersburg; fourth vice-president, Dr. John W. Mosser, McConnellsburg; secretary, Dr. W. Newton Long, York; and treasurer, Dr. Gibson Smith, York.

Dinner was served to sixty-five doctors and members of their families, following which Dr. A. C. Morgan gave a talk to the Woman's Auxiliary on legislative matters concerning the society. Golf was played during the afternoon.

W. NEWTON LONG, M.D., *Secretary.*

In this State of great and increasing medical activities, workers with records of achievement and promise should be readily found and gathered into our ranks in sufficient numbers to make good our losses and fill our membership list to capacity. Are you doing your share?

Tuberculosis Abstracts

A Review for Physicians

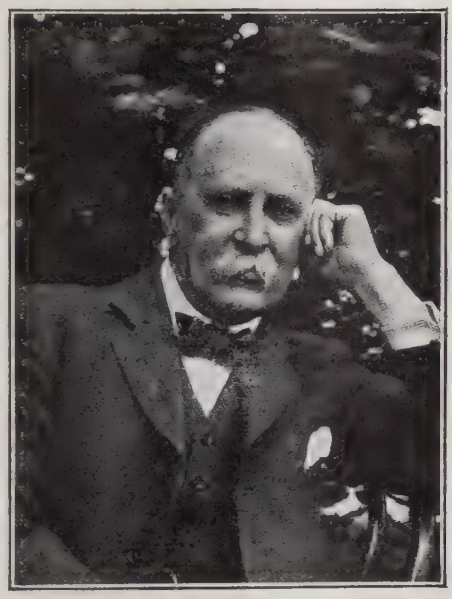
PREPARED MONTHLY BY THE NATIONAL TUBERCULOSIS ASSOCIATION

Published through the coöperation of the Pennsylvania Tuberculosis Society and the Medical Society of the State of Pennsylvania

TREATING a case of tuberculosis requires science and art. The tuberculosis patient is sick physically and psychically. "Treat the patient — not only the disease" is more than an empty play on words. In no disease is recovery more dependent on the intelligence and coöperation of the patient than in tuberculosis. Expert management of the pathologic condition is not enough; the patient must also be taught and trained and encouraged to adjust himself to his handicap. Unless doctor and patient are sympathetically in accord, this cannot be achieved.

Sir William Osler Said:

"There is no greater mistake than to keep from the patient the knowledge that he has tuberculosis in its early stages, as it is only by having that knowledge that he can be expected to recover. We are criminal participants if we refuse to tell the patient exactly the nature of the trouble."



Safety in Knowledge

Patients may recover without even knowing they are tuberculous; but it is far better that a tuberculous person study the disease in order that he may recover more rapidly and that he may avoid a future breakdown. Knowledge of the disease gives one a feeling of safety, and safety means happiness. A person who has been tuberculous and is well informed on the subject is not often worried about his future. He knows how to avoid trouble, he feels safe, and, as a consequence, is more likely to live a normal and happy life. Patients, taking a rest cure, should learn tuberculosis — learn it well! Traveling about in the dark is an unsafe way to get through life.

Persons with supposedly imaginary troubles are commonly advised to "forget it." Such advice is dangerous. The great evil resulting from the indiscriminate use of the expression — forget it — is that the patient often has at the time not only a serious but actually a fatal disease that the doctor has not discovered.

After a tuberculous patient has taken a rest cure and has gone back to work, his mind begins to build up a barrier to exclude the disagreeable parts of his recent experience. This is normal. Only morbid minds and chronic sympathy seekers continue to dwell on hardships, past or present. The healthy mind forgets disagreeable experiences. For this reason, persons who have been tuberculous often wilfully deny the fact after recovery from the disease. It is commendable self-deception. But they do follow the straight and narrow path, and, should evidence of what they think may be active disease reappear in them, they go at once to their medical attendant for another examination.—*Getting Well and Staying Well, John Potts, C. V. Mosby Co.*

Instructing the Patient

The ultimate result in pulmonary tuberculosis depends directly on the patient's application of the knowledge he has acquired about what he should and should not do. Education of the tuberculous patient closely resembles psychotherapy. In a preliminary talk, Brown tells the patient a few fundamental principles. He describes the pathology, using homely similes, comparing the newly formed scar tissue, for example, to a delicate spider web which may easily be stretched or broken by the patient's

indiscretion and so permit tubercle bacilli to migrate to new areas of the lung. He does not peremptorily order the patient to bed but puts the whole problem before him so that the patient himself elects to go to bed. While in this state of mind, the patient is receptive to all sensible suggestions. The rôle played by rest, fresh air, and nutrition are then explained to him. At each visit, he is given additional information. Questions are jotted down when they occur to him and are discussed with the doctor at the next visit. The care needed to recover and to prevent future breakdown becomes a part of the patient's subconsciousness.

Mention of complications is taboo until they actually occur. Physical findings are not discussed with the patient except that certain sounds heard in the chest are called "green lights" meaning "go slow" or "red lights" meaning "lay off in the side track for a while." Occupational therapy (when bed rest is no longer required) is a God-send. Idle patients are tempted to do foolish things.

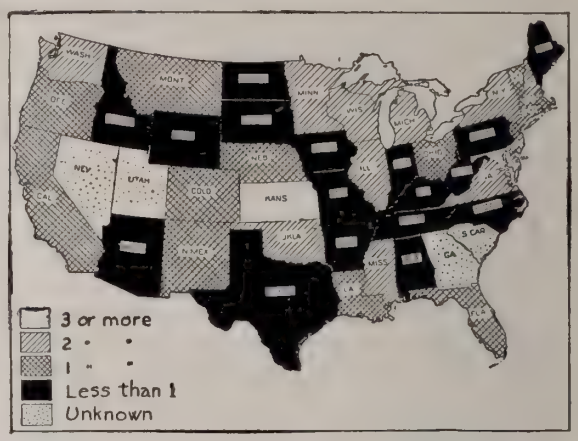
After the training in the sanatorium or by a private physician, the patient passes on into the university of life, there to solve his own problems with the aid of occasional advice from his physician.—*Instructing the Tuberculosis Patient to Assure Permanency of Recovery, Lawrason Brown, Jour. of the Out. Life, March, 1928.*

Protective Devices

No less important than the teaching and training of the patient are the social obligations which a physician automatically assumes with each case. Tuberculosis is a contagious disease. Members of the patient's family, as well as the general public, are entitled to that protection which the social and public health machinery designed for that purpose is supposed to provide. These protective devices cannot, however, function efficiently without the full coöperation of the physician.

Prompt Reporting Necessary

Nearly 12% of tuberculosis cases reported by physicians to the Board of Health of Boston were reported after death. Another 12% were reported only one week before death. Of the cases reported during November, 1927, one-half had been reported within a month of death. "There is only one conclusion to be drawn from these figures and that is that there is a serious delay in reporting cases of this disease."—*Editorial, Boston Med. and Surg. Jour., February 9, 1928.*



Ratio of cases of tuberculosis reported to deaths from tuberculosis, according to states. *Compiled by Dr. Robt. E. Plunkett, N. Y. Dept. of Health.*

Books for the Patient

Lawrason Brown: Rules for Recovery from Pulmonary Tuberculosis, Lea & Febiger, 217 pp.

John Potts: Getting Well and Staying Well, C. V. Mosby Co., 150 pp.

Gerald B. Webb and Charles T. Ryder: Overcoming Tuberculosis, An Almanac of Recovery, P. B. Hoeber, 198 pp.

A more complete list of books on tuberculosis for laymen, as well as booklets and leaflets, may be secured from your tuberculosis association.

Diagnosis of Pulmonary Tuberculosis

The Pennsylvania Tuberculosis Society has available a number of reprints of an article which appeared in the *Journal of the American Medical Association.* It was written by Dr. Lawrason Brown, of Saranac Lake, New York, and is entitled, "The Diagnosis of Pulmonary Tuberculosis for the General Practitioner." Dr. Brown is one of the well-known tuberculosis specialists of the country and physicians will find his article of practical value. Copies of the reprint can be obtained by writing to:

The Pennsylvania Tuberculosis Society

409 Social Service Bldg. 311 S. Juniper St.
Philadelphia

THE MEDICAL SOCIETY OF DELAWARE

PROGRAM

ONE HUNDRED AND THIRTY-NINTH ANNUAL SESSION

September 11 and 12, 1928, Rehoboth, Delaware

OFFICERS AND COMMITTEEMEN FOR THE YEAR 1928

President, W. T. Jones, Laurel.

First Vice-President, B. M. Allen, Wilmington.

Second Vice-President, A. T. Davis, Dover.

Secretary, W. O. LaMotte, Medical Arts Bldg., Wilmington.

Treasurer, S. C. Rumford, 1403 Market Street, Wilmington.

Councilors: I. J. MacCollum, Wyoming; W. T. Jones, Laurel; H. W. Briggs,* Wilmington.

DELEGATES

New Castle County: W. Edwin Bird, G. W. K. Forrest, Wm. N. Fenimore, Albert Robin,* Paul R. Smith, Wm. H. Speer, Norwood W. Voss, Victor D. Washburn, Wilmington; Edward M. Vaughan, Middletown; Walter W. Ellis, Delaware City; J D. Niles, Townsend.

Alternates: C. Anthony Beck, Earl Bell, Charles H. Boehm, J. W. Butler, Wm. F. Bonner, E. Harvey Lenderman, Herman S. Miller, Meredith I. Samuel, Lawrence Rigney, Wilmington.

Kent County: Joseph Bringhurst, Felton; I. J. MacCollum, Wyoming; L. D. Phillips, Dover.

Sussex County: James Beebe, Lewes; W. F. Haines, Seaford; J. B. Waples, Georgetown.

Delegate to American Medical Association, W. O. LaMotte, Medical Arts Building, Wilmington. *Alternate,* O. S. Allen, Wilmington.

Delegates to State Societies: to Maryland, W. T. Chipman, Harrington; to Pennsylvania, E. H. Lenderman, Wilmington; to New Jersey, I. A. B. Allen, Seaford; to New York, H. L. Springer, Wilmington.

Delegates to Delaware State Pharmaceutical Society, H. M. Manning, Seaford; Earl Bell, Wilmington; C. J. Prickett, Smyrna.

Committee on Scientific Work: M. A. Tarumianz, Farnhurst; John James, Dover; Roscoe Elliott, Laurel.

Committee on Public Policy and Legislation: Joseph McDaniel, Dover; J. W. Bastian, Wilmington; James Beebe, Lewes.

Committee on Medical Education: H. W. Briggs,* Wilmington; G. Frank Jones, Georgetown; William Marshall, Milford.

Committee on Necrology: E. M. Vaughan, Middletown; C. deJ. Harbordt, Dover; U. W. Hocker, Lewes.

Committee on Publication: W. E. Bird, Wilmington; A. Robin,* Wilmington; W. O. LaMotte, Wilmington.

Hospital Committee: Joseph McDaniel, Dover; John H. Mullin, Wilmington; Richard Beebe, Lewes.

Committee on Health Problems in Education: A. T. Davis, Dover; T. H. Davies, Wilmington; J. A. Ellegood, Wilmington; F. F. Armstrong, Wilmington; William P. Orr, Lewes.

*Deceased.

ESSAYISTS

Taking Part in the Annual Session Are Requested to Make Careful Note of the Following:

1. Papers read before the Society become the property of the Society. Each paper shall be deposited with the secretary when read (Article X, Section 3 of the By-Laws of the Society).
2. Carbon copies are not accepted. Please turn in originals.
3. Double-space all papers, and leave plenty of margin, especially on first page.
4. No address or paper before this Society, except those of the president, invited guests, and orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject except by unanimous consent.
5. All members must be registered before they can participate in the proceedings and discussions of the general meeting (Article IV, Section 5, of the By-Laws).

MEETING OF THE HOUSE OF DELEGATES

Henlopen Hotel, Rehoboth, Delaware

Tuesday, September 11th, 10 a. m., Standard Time

ORDER OF BUSINESS

1. Call to order.
2. Roll Call.
3. Reading of Minutes of Last Session.
4. Appointment of Committee on Nominations.
5. Reports of Officers:
   a. President.
   b. Secretary.

c. Treasurer.
d. Councilors.
e. Editor.
6. Reports of Committees:
a. Scientific Work.
b. Public Policy and Legislation.
c. Medical Education.
d. Necrology.
e. Publication.
f. Hospitals.
g. Health Problems in Education.
h. Auditing.
i. Nominations.
7. Reports of Delegates:
a. American Medical Association.
b. Federation of State Medical Boards.
c. Other State Societies.
8. Unfinished Business.
9. New Business:
a. Resolutions.
b. Communications.
c. Appropriations.
d. Approval of Scientific Program.
e. Selection of Meeting Place.
f. Miscellaneous.
10. Adjournment.

1.00 p. m.

Luncheon will be given by the Sussex County Medical Society at the Rehoboth Beach Country Club House to members and their wives.

SCIENTIFIC PROGRAM

Tuesday, September 11th, 2.20 p. m., Standard Time

1. Acute Cervical Adenitis in Children.
C. E. WAGNER, Wilmington.

3.00 p. m.

2. Pancreatitis.
HENRY V. P. WILSON, Dover.

3.40 p. m.

3. Angina Pectoris, and Coronary Occlusion. (With cardiographic lantern slides.)
OLIN S. ALLEN, Wilmington.

4.20 p. m.

4. Carcinoma of the Cervix.
RICHARD C. BEEBE, Lewes.

5.00 p. m.

5. The Uses of Vital Statistics.
A. T. DAVIS, Dover.

7.00 p. m.

Dinner given by the Sussex County Medical Society at the Henlopen Hotel to members, their wives and guests.

8.30 p. m.

President's Reception, followed by dancing.

Wednesday, September 12th, Henlopen Hotel, 9.00 a. m., Standard Time

Invocation.
REVEREND ESSEL P. THOMAS, Laurel.

Address of Welcome.
HON. RALPH M. WINGATE, Mayor of Rehoboth.

President's Address.
WILLIAM T. JONES, Laurel.

Report of the House of Delegates.

10.30 a. m.

6. The Treatment of Acute Cardiac Tragedies.
ARTHUR C. MORGAN, Philadelphia, Pa.

11.30 a. m. to 12.30 p. m.

7. Bronchoscopy as an Aid in the Diagnosis and Treatment of Asthma. (With lantern-slide and moving-picture demonstration.)
GABRIEL TUCKER, Philadelphia, Pa.

1.00 p. m.

Dinner served by the Medical Society of Delaware at the Henlopen Hotel.

2.00 p. m.

8. Some Emergencies of Diabetes and How to Treat Them.
ORLANDO H. PETTY, Philadelphia, Pa.

3.00 to 4.00 p. m.

9. The Treatment of Goiter.
CHARLES F. NASSAU, Philadelphia, Pa.

4.00 to 5.00 p. m.

10. Lesions of the Stomach (Lantern Demonstration).
JOSEPH COLT BLOODGOOD, Baltimore, Md.

5.00 p. m.

11. Postencephalitis.
M. A. TARUMIANZ and
P. F. ELFELD, Delaware State Hospital.

EDITORIAL

THE SWAN SONG

When, in April, 1923, the Medical Society of Delaware joined with the Medical Society of the State of Pennsylvania to publish the ATLANTIC MEDICAL JOURNAL as a territorial journal, in the hope that contiguous states might later join the original two, so that ultimately we should issue the greatest nonnational medical magazine in the country, we did so expecting that by now the evidence of such a journal would be forthcoming. The Publication Committees of both States are unhappy in having to admit that this has not eventualized, and there is little likelihood of it in the reasonably near future. The small membership, and consequently the small contributions in cash and in kind that were available from the Delaware end have been a handicap from the beginning, and so long as the original aims seem unattainable, it has been deemed best to revert to the original form of publications; namely, a separate journal for each State. Thus, with this issue both States bid the young ATLANTIC a somewhat sad farewell.

We in Delaware shall ever be mindful of the never-failing kindnesses and courtesies we have

received at the hands of our Keystone brethren, especially those who have served with us on the Publication Committee and in the editorial work. To our friends in Pennsylvania we can merely say: we leave you with regrets and best wishes.

Medical News

Deaths

John L. Yard, M.D., of Philadelphia; Jefferson Medical College, 1879; aged 76; July 25.

Charles L. Campbell, M.D., of Pittsburgh; Jefferson Medical College, 1886; aged 66; July 31.

Hugh B. O'Donnell, M.D., of Philadelphia; Jefferson Medical College, 1893; aged 60; August 14, of heart disease.

Philip F. Hubler, M.D., of Pittston; University of Pennsylvania School of Medicine, 1877; aged 77; April 18, of pneumonia.

Nelson M. Meals, M.D., of Callensburg; Western Reserve University School of Medicine, Cleveland, 1874; aged 80; July 15.

John H. Enterline, M.D., of Shamokin; Jefferson Medical College, 1885; aged 72; August 13, following a heart attack.

Martha M. DeGraw, M.D., of Scranton; Woman's Medical College, 1877; aged 83; June 18, of cardiorenal disease.

William J. McGranor, M.D., of Port Allegany; University of Pittsburgh School of Medicine, 1896; aged 57; July 20, of lobar pneumonia.

Martin L. Focht, M.D., of Lewisburg; New York University Medical College, 1881; aged 72; August 14, from a complication of diseases.

Charles E. Spahr, M.D., of York; Hahnemann Medical College and Hospital, 1885; aged 68; August 17, having shot himself through the heart.

Joseph N. Smith, M.D., of Shippensburg; Homeopathic Hospital College, Cleveland, 1887; served during the World War; aged 63; June 18, of senile dementia.

George W. Mackenzie, 3d, son of Dr. and Mrs. George W. Mackenzie, of Philadelphia; aged 19; August 19. He was accidentally killed while automobile racing.

George Hetrich, M.D., of Birdsboro; Jefferson Medical College, 1885; a former burgess; known as an antiquarian and historian; aged 66; August 9, following a year's illness.

Eleanor J. H. Lawson, M.D., of Kittanning; Woman's Medical College, 1900; aged 50; March 10, at the Presbyterian Hospital, Pittsburgh, of interstitial nephritis.

Horace M. Alleman, M.D., of Hanover; University of Pennsylvania School of Medicine, 1888; president of the school board for two terms; aged 66; August 21, of heart trouble.

Harry B. Roop, M.D., of Columbia; University of Pennsylvania School of Medicine, 1898; director of the staff of the Columbia Hospital; president of the borough council for several years; aged 57; August 8, following a heat stroke.

Granville T. Matlack, M.D., of Wilkes-Barre; Jefferson Medical College, 1884; member of the staffs of the Wilkes-Barre General and the Mercy Hospitals; aged 66; July 25, of edema of the lungs and tuberculous peritonitis.

Harry R. Dapper, M.D., of Pittsburgh; University of Pittsburgh School of Medicine, 1925; aged 27; August 20. On the pretext that his wife was ill, an unidentified stranger asked Dr. Dapper to accompany him to the country, and when they reached a secluded spot on the road, the stranger shot and killed Dr. Dapper. The motive for the murder is not known.

Mrs. Hoffman, wife of Dr. H. H. Hoffman, of Ashley, was found dead in her bedroom on July 22. Her head had been crushed by terrific blows from a blunt instrument. Dr. Hoffman confessed the murder after three days of grilling. The defense has in its possession more than 150 letters written by Mrs. Hoffman, in many of which she boasted of a scheme to make a "clean-up" of her husband's life savings.

Frederick W. Coover, M.D., of Harrisburg; University of Pennsylvania School of Medicine, 1875; aged 76; August 1, after an illness of several months. Dr. Coover was the first resident physician of the Harrisburg Hospital, and later visiting physician and surgeon. He was also dean of the hospital staff until his retirement eight years ago. At the time of his death he was surgeon emeritus of the institution. He was first treasurer and third president of the Harrisburg Academy of Medicine, and compiled a history of the Academy from the time of its organization in 1895 up to the present year.

Birth

To Dr. and Mrs. Allen H. Moore, of Doylestown, a son, Irvine Boykin Moore, July 21.

Engagements

Miss Mary Adele Lyons and Dr. Basil R. Beltran, of Philadelphia.

Miss Louise Williams and Dr. S. Hamill Horne, both of Philadelphia.

Miss Katherine Irene McCalley, of Harrisburg, and Dr. George A. Holliday, of Pittsburgh.

Miss Marguerite Barnes Soars and Dr. Donald Riegel, son of Dr. and Mrs. Walter S. Riegel, of Philadelphia.

Miss Eleanor Standish Gamble, daughter of Dr. and Mrs. Robert G. Gamble, of Haverford, and Commander Jules James, U. S. N.

Miss Dorothy E. Williams, daughter of Dr. and Mrs. Neri B. Williams, of Perkasie, and Professor Paul Gruber, also of that place.

Miss Rebecca Wetherill Stout, daughter of Dr. George Clymer Stout, of Philadelphia, and Lieutenant Lester T. Hundt, U. S. N.

Miss Margaret Cortright Stout, daughter of Dr. George Clymer Stout, of Philadelphia, and Lieutenant Robert Wurts Bockius, U. S. N.

Marriages

Miss Laura Bourquin to Dr. Andrew C. Biehn, both of Quakertown.

Miss Jane Murray to Dr. D. E. Matzke, both of Punxsutawney, August 9.

Miss Helen May Wilson, director of education at the University of Pennsylvania Hospital, to Dr. William C. Hunsicker, Jr., son of Dr. William C. Hunsicker, State Senator, of Philadelphia, July 24.

Miscellaneous

Dr. E. A. Campbell, of Ridley Park, is traveling in Europe.

Dr. and Mrs. E. Paul Reiff, of Philadelphia, have been spending the summer in Alaska.

Dr. and Mrs. Francis R. Packard and daughters, of Philadelphia, have returned from Europe.

DR. AND MRS. CARL V. VISCHER and son and daughter, of Philadelphia, have sailed on a Canadian cruise to Halifax, Quebec, and the Saguenay.

DR. S. B. MEYERS, of Johnstown, is spending three months at the Neurological Institute in New York City taking postgraduate work in neurology.

AT THE LAST annual commencement of the University of Pennsylvania, held on June 20, the honorary degree of Doctor of Science was conferred upon Dr. James M. Anders.

DR. JOHN B. CARRELL, of Hatboro, was honored on the occasion of his seventy-seventh birthday, July 11, by a large garden party tendered by physicians and other friends.

THE TRUSTEES OF THE Bloomsburg Hospital opened bids on August 8 for the construction of a new hospital building. This was made possible by a public subscription of $400,000.

THE JOHN B. STETSON HOSPITAL, Philadelphia, will receive $10,000 under the will of Aaron Naumberg, fur manufacturer of New York. The estate is estimated at more than $3,000,000.

DR. JOHN H. DOANE, of Mansfield, has been appointed major of the Medical Corps, P. N. G. This makes him commander of the Battalion of the 103d Medical Regiment, with headquarters at Mansfield.

THE WILL OF LOUISE WEINGARTNER, of Philadelphia, disposing of an estate of $48,600, bequeaths $5,000 to St. Christopher's Hospital for Children to establish free beds, and $500 to the Episcopal Hospital.

BY THE WILL OF LOUIS BOSS, Philadelphia lawyer who died on November 25, 1927, the Jefferson Hospital will receive $50,000 and the Lankenau Hospital will receive $10,000 for the maintenance of two free beds.

DR. E. W. BEVILACQUA, of Philadelphia, suffered a fracture of the skull in a recent automobile collision, and was taken to the Misericordia Hospital in a serious condition. Four other persons were less seriously injured in the crash.

PREPARATIONS ARE UNDER WAY to raise $3,000,000 for erecting an Irish hospital in New York City as a "permanent memorial to the humanitarian instincts of the Irish race." The building will be on the east side in the Fifties.

THE LATE SARAH I. SMITH, of Lower Merion, has willed to the hospital of the University of Pennsylvania all but one of her oil paintings, which are to be hung on the walls of the ward where she underwent an operation. Her estate is valued at $100,000.

THE HOMES OF TWO Philadelphia physicians were broken into by thieves on the night of August 1. Two revolvers and $18 were taken from the home of Dr. Robert A. W. McKeldin, while Dr. Harry Bond Wilmer found clothing, jewelry, and silverware totaling $1,500 missing from his home.

CLINICS FOR THE treatment of hay fever and asthma have been opened at the Mount Sinai Hospital, Philadelphia, and are under the direction of Drs. A. I. Rubenstone and Abraham Trasoff. The purpose is to seek a standardization of treatments of the two diseases. The clinics are being held Wednesday mornings at 9 o'clock.

DRS. JOHN, JAMES, AND LAWRENCE CORRIGAN, of Hazleton, have opened a modern maternity hospital, which will be open also to other physicians in the community. The Corrigan Maternity Hospital is the first private institution of its kind in the entire middle anthracite region, and it is reported to have the good wishes of the community in general.

DR. WILLIAM E. ASHTON, of Philadelphia, has been awarded the Distinguished Service Cross for extraordinary heroism in the World War. The citation states that Dr. Ashton, who was regimental surgeon to the Three Hundred and Ninth Field Artillery, "went forward under heavy artillery fire near Marcq, France, October 18, 1918, and aided wounded men, being subjected to constant explosions of phosgene gas and being compelled to remove his gas mask to accomplish the work."

THE EXPENDITURE OF $300,000 at the present time is part of a ten-year plan whereby the bed capacity of the Harrisburg State Hospital will be increased from 1,120 to 2,000, and other needed changes will be made. Quarters for employees, nurses, and staff members are badly needed, and among the other buildings to be erected are a laundry, a clinicopathologic building, a cold storage plant, a gymnasium, a garage, an industrial building, and a new power plant.

The Committee on Archives of the Jefferson Medical College and Hospital will appreciate gifts of or information concerning paintings, etchings, drawings, silhouettes, busts, photographs, or cartoons of physicians who have served upon the staff of either the college or the hospital. Etchings, wood cuts, prints, or photographs, or other similar souvenirs of Jefferson College or Hospital buildings will be welcomed. All gifts or information concerning them should be addressed to the Committee on Archives, c/o Chief Resident Physician, Jefferson Medical College Hospital, Philadelphia.

THE AMERICAN COLLEGE OF SURGEONS will hold its eighteenth Clinical Congress in Boston, October 8-12. Headquarters will be at the Statler Hotel, and meetings will be in the ballroom of the Copley-Plaza Hotel and Symphony Hall. The Hospital Standardization Conference will be held in morning and afternoon sessions in the ballroom of the Copley-Plaza Hotel on Monday, Tuesday, Wednesday, and Thursday. An innovation this year will be the commencement of the clinics in the Boston hospitals on Monday afternoon, countinuing through the mornings and afternoons of the following four days. Monday evening's program will include an address of welcome by the local chairman, the address of the retiring president, Dr. George David Stewart, New York, the inaugural address of the new president, Dr. Franklin H. Martin, Chicago, and the John B. Murphy oration on surgery by Professor Vittorio Putti of Bologna, Italy. Tuesday, Wednesday, and Thursday evenings' sessions will be held in the ballroom of the Copley-Plaza Hotel. At the Wednesday evening meeting the visiting surgeons will be the guests of the Boston Surgical Society at a special meeting when the Bigelow medal is to be awarded. On Friday evening the Annual Convocation of the College will be held in Symphony Hall, when the 1928 class of candidates for fellowship in the College will be received. The fellowship address on this evening will be delivered by Dr. William J. Mayo. The annual meeting of the Governors and Fellows will be held Friday afternoon, and will be followed by a symposium on traumatic surgery to be participated in by leaders in industry, labor, indemnity organizations, and the medical profession. "Ether Day" will be celebrated in the Dome Room of the Massachusetts General Hospital on Friday, when a bronze bust of William T. A. Morton will be presented to the hospital. It was in this building that ether was first administered for the production of surgical anesthesia on October 16, 1846. Several newly completed medical motion pictures produced under the supervision of the American College of Surgeons and approved by it will be shown during the Congress. Reduced fares on the railways of the United States and Canada have been authorized to those holding a convention certificate, so that the total fare for the round trip will be one and one-half the ordinary first-class one-way fare. Other outstanding features will be the exhibits. In addition to the commercial exhibits, the departments of the College will present scientific exhibits. A number of distinguished foreign guests of international reputation have signified their intention of attending. The chairman of the Boston Committee on Arrangements is Dr. Frederick J. Cotton.

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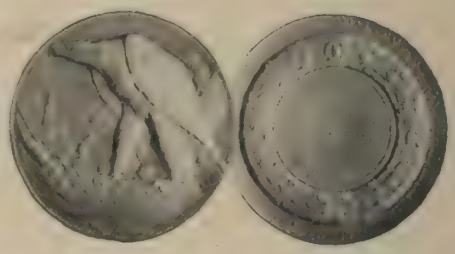

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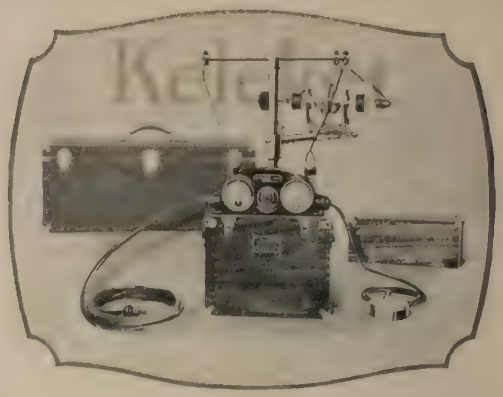

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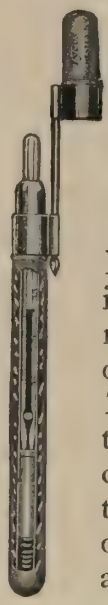

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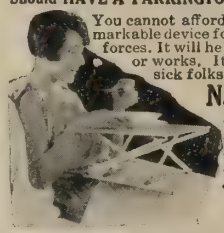

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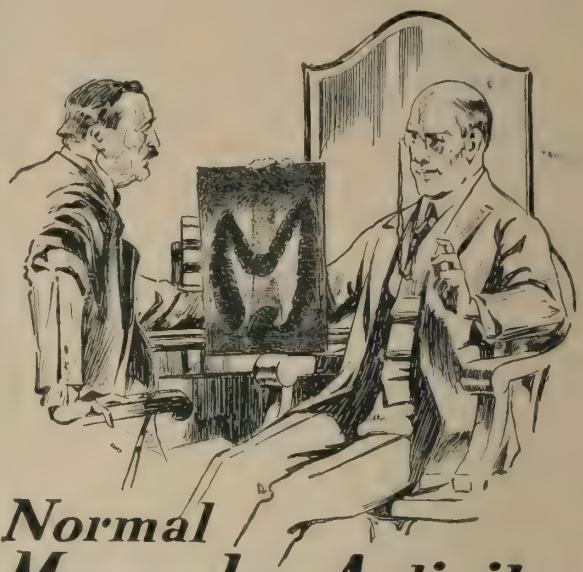

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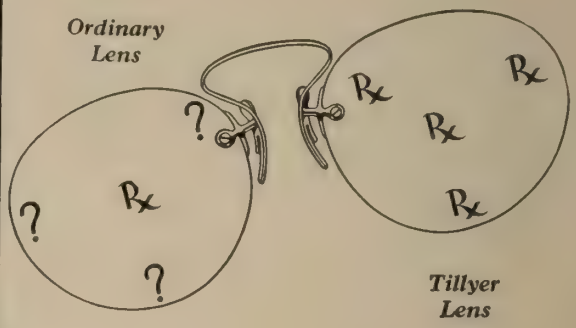

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